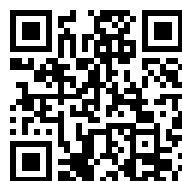
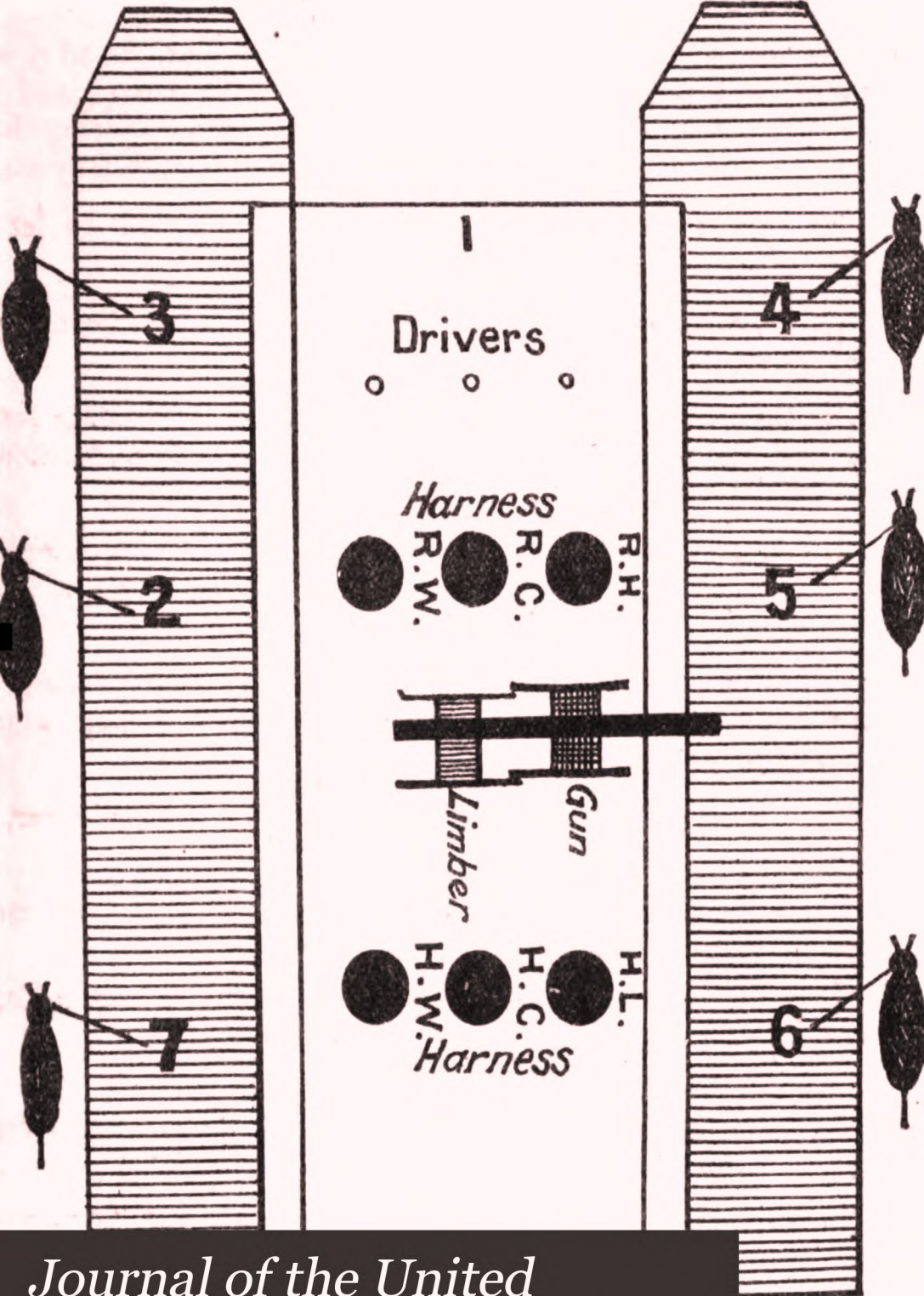

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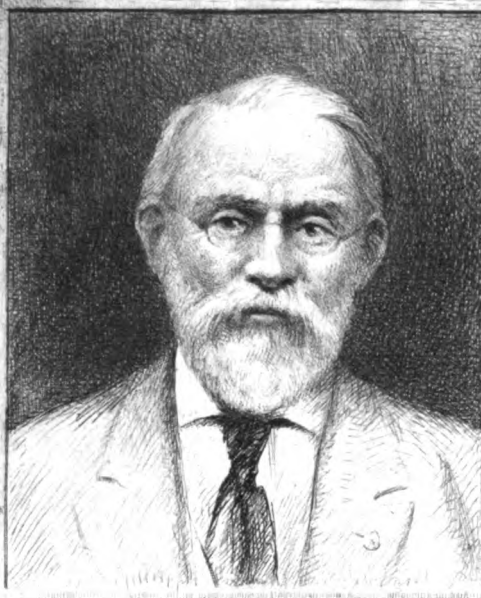
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CONTENTS.

	PAGE.
Part of a Journey from Peking to S'Such'nan—By Lieutenant-Colonel MANIPOLD, I.M.S., and Captain HUNTER, R.E.	1
The use of Modern Artillery in Battle.—By Lieutenant-Colonel C. B. MAYNE, R.E.	24
The Training and Equipment of Cavalry and Mounted Infantry in India and their respective roles in War.—By Captain W. B. JAMES, 2nd Bengal Lancers	34
The Defence.—By Brigadier-General F. H. PLOWDEN, Commanding Belgaum District	65
Tommy Cornstalk and the Empire.—By Captain E. DAWSON, Rangoon Volunteer Rifles	77
Some Principles of Modern Tactics.—By Major T. E. COMPTON, Deputy Assistant Adjutant General for Instruction	87
International Rifle Meeting at Shan-Hai-Kuan	97
Some Foreign Articles of special interest—	
Précis of Foreign Papers	98
Premia awarded during 1902	106
List of Medallists of the Institution	107
Panipat.—By Captain A. I. R. GLASFORD, 4th Infantry, Hyderabad Contingent	109
Horse-breeding in India.—By Veterinary-Lieutenant F. H. S. BALDREY... ..	124
Notes on Transport of Troops, etc.—By T. G. ACRES	127
Marches —By Lieutenant-Colonel A. MACW. RENNY, 7th Bengal Lancers	137
Embarkation of guns on Pontoons.—By Major C. T. ROBINSON, Royal Artillery	147
Field Service tent for Cavalry.—By Lieutenant H. J. WALLIS, 1st Lancers, Hyderabad Contingent	149
The Bartitsu method of self-defence.—By Captain F. C. LAING, 12th Bengal Infantry	153
The Sword—Lance—A suggestion.—By Captain F. C. LAING, 12th Bengal Infantry	159
Some Account of the Moplahs and Coorgs.—By Major R. G. BURTON	160
The officer in India and the vernacular languages. By Captain H. H. NORMAN, Northamptonshire Regiment	168
Napoleon as a General.—By HISTORICUS	175
Some Foreign Articles of Special Interest—	
Précis of Foreign Papers ... ..	...

	PAGE.
Conditions of competition for the Enno Sander prize ...	203
List of essays received for gold medal competition, 1903 ...	204
List of medallists of the Institution ...	205
Invasions of India.—By Major R. G. BURTON, Secretary, United Service Institution of India ...	207
British Cavalry in India.—By Lieutenant R. F. W. ASHWORTH, 5th Dragoon Guards ...	244
Individuality and invisibility in uniforms.—By E. C. A. ...	248
Litters for carrying sick and wounded.—By Major W. KIRKPATRICK, D.S.O., 1st Punjab Infantry ...	254
Napoleon as a General.—By HISTORICUS ...	250
The Training of the Native Infantry Recruit.—By Major F. V. WHITTALL, 1st Infantry, Hyderabad Contingent ...	267
Horse-breeding in India.—By General Sir JOHN WATSON, V.C. ...	272
Prices of foreign papers ...	274
List of medallists of the institution ...	283

Supplement to the Journal for July:—

A review of our system of Military Education and Training of Regimental and Staff Officers and suggestions for its practical improvement:—

Gold Medal Essay.—By Major W. G. HAMILTON, D.S.O., Norfolk Regiment ...	I
II.—By Captain R. F. G. BOND, Royal Engineers (<i>specialty awarded a silver medal</i>) ...	39
III.—By Major J. C. RIMINGTON, R.E. ...	56
IV.—By Colonel F. M. RUNDALL, D.S.O., 14th Gurkha Rifles ...	89
V.—By Captain T. O. MARRAS, Cheshire Regiment ...	122
VI.—By Lieutenant-Colonel G. P. RANKIN, 46th Punjab Infantry ...	157

The Campaign in Kumaon.—By Major W. G. HAMILTON, D.S.O., Norfolk Regiment ...	285
The Sikh Religion and its advantages to the State—Lecture.—By M. MACAULIFFE, Esq., late I. C. S. ...	300
How the Sikhs became a Militant Race—Lecture.—By M. MACAULIFFE, Esq., late I. C. S. ...	330
The Atlanta Campaign—Lecture.—By Colonel F. M. RUNDALL, D.S.O. ...	359
Scheme for a Corps of Native Mounted Scouts.—By Captain J. M. WICKLEY, 17th Buffs (London) ...	381
The Growth of the Military Powers of Japan.—By Captain H. W. R. SENIOR, 28th Punjab Infantry ...	389
Notes on a Reorganisation Scheme for Native Infantry.—By Lieutenant G. H. SAWYER, 23rd Punjab Pioneers ...	409
The Disposal of the Wounded of Cavalry.—By Lieutenant-Colonel H. G. HOBBS, R. A. M. C. ...	421
Prices of Foreign Military papers:—	
French and Russian.—By Major R. G. BURTON ...	429 & 434
German.—By Captain H. W. R. SENIOR ...	431
List of medallists of the Institution ...	437

United Service Institution of India.

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CONTENTS.

	PAGE.
Part of a Journey from Peking to S'Such'nan—By Lieutenant-Colonel MANIFOLD, I.M.S., and Captain HUNTER, R.E. ...	1
The use of Modern Artillery in Battle.—By Lieutenant-Colonel C. B. MAYNE, R.E. ...	24
The Training and Equipment of Cavalry and Mounted Infantry in India and their respective roles in War.—By Captain W. B. JAMES, 2nd Bengal Lancers ...	34
The Defence.—By Brigadier-General F. H. FLOWDEN, Commanding Belgaum District ...	65
Tommy Cornstalk and the Empire.—By Captain E. DAWSON, Rangoon Volunteer Rifles ...	77
Some Principles of Modern Tactics.—By Major T. E. COMPTON, Deputy Assistant Adjutant General for Instruction ...	87
International Rifle Meeting at Shan-Hai-Kuan ...	97
Some Foreign Articles of special interest—	
Précis of Foreign Papers ...	98
Premia awarded during 1902 ...	106
List of Medallists of the Institution ...	107
Panipat.—By Captain A. I. R. GLASFORD, 4th Infantry, Hyderabad Contingent ...	109
Horse-breeding in India.—By Veterinary-Lieutenant F. H. S. BALDREY... ..	124
Notes on Transport of Troops, etc.—By T. G. ACRES ...	127
Marches.—By Lieutenant-Colonel A. MACW. RENNY, 7th Bengal Lancers ...	137
Embarkation of guns on Pontoons.—By Major C. T. ROBINSON, Royal Artillery ...	147
Field Service tent for Cavalry.—By Lieutenant H. J. WALLIS, 1st Lancers, Hyderabad Contingent ...	149
The Bartitsu method of self-defence.—By Captain F. C. LAING, 12th Bengal Infantry ...	153
The Sword—Lance—A suggestion.—By Captain F. C. LAING, 12th Bengal Infantry ...	159
Some Account of the Moplahs and Coorgs.—By Major R. G. BURTON ...	160
The officer in India and the vernacular languages.—By Captain H. H. NORMAN, Northamptonshire Regiment ...	168
Napoleon as a General.—By HISTORICUS ...	175
Some Foreign Articles of Special Interest—	
Précis of Foreign Papers ...	192

	PAGE.
Conditions of competition for the Enno Sander prize ...	203
List of essays received for gold medal competition, 1903 ...	204
List of medallists of the Institution ...	205
Invasions of India.—By Major R. G. BURTON, Secretary, United Service Institution of India ...	207
British Cavalry in India.—By Lieutenant R. F. W. ASHWORTH, 5th Dragoon Guards ...	244
Individuality and invisibility in uniforms.—By E. C. A. ...	248
Litters for carrying sick and wounded.—By Major W. KIRKPATRICK, D.S.O., 1st Punjab Infantry ...	254
Napoleon as a General.—By HISTORICUS ...	256
The Training of the Native Infantry Recruit.—By Major F. V. WHITTALL, 1st Infantry, Hyderabad Contingent ...	267
Horse-breeding in India.—By General Sir JOHN WATSON, V.C. ...	272
Précis of Foreign papers ...	274
List of medallists of the institution ...	283

Supplement to the Journal for July :—

A review of our system of Military Education and Training of Regimental and Staff Officers and suggestions for its practical improvement :—	
Gold Medal Essay.—By Major W. G. HAMILTON, D.S.O., Norfolk Regiment ...	I
II.—By Captain R. F. G. BOND, Royal Engineers (<i>specially awarded a silver medal</i>) ...	30
III.—By Major J. C. RIMINGTON, R.E. ...	56
IV.—By Colonel F. M. RUNDALL, D.S.O., 1-4th Gurkha Rifles ...	89
V.—By Captain T. O. MARDEN, Cheshire Regiment ...	122
VI.—By Lieutenant-Colonel G. P. RANKEN, 46th Punjab Infantry ...	157
The Campaign in Kumaon.—By Major W. G. HAMILTON, D.S.O., Norfolk Regiment ...	285
The Sikh Religion and its advantages to the State—Lecture.—By M. MACAULIFFE, Esq., late I. C. S. ...	300
How the Sikhs became a Militant Race—Lecture.—By M. MACAULIFFE, Esq., late I. C. S. ...	330
The Atlanta Campaign—Lecture.—By Colonel F. M. RUNDALL, D.S.O. ...	359
Scheme for a Corps of Native Mounted Scouts.—By Captain J. M. WIKLEY, 17th Bengal Lancers ...	381
The Growth of the Military Powers of Japan.—By Captain H. W. R. SENIOR, 20th Punjab Infantry ...	389
Notes on a Reorganisation Scheme for Native Infantry.—By Lieutenant G. H. SAWYER, 23rd Punjab Pioneers ...	409
The Disposal of the Wounded of Cavalry.—By Lieutenant-Colonel H. G. HATHAWAY, R. A. M. C. ...	421
Précis of Foreign Military papers :—	
French and Russian.—By Major R. G. BURTON ...	429 & 434
German.—By Captain H. W. R. SENIOR ...	431
List of medallists of the Institution ...	437

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	PAGE.
Conditions of competition for the Enno Sander prize ...	203
List of essays received for gold medal competition, 1903 ...	204
List of medallists of the Institution ...	205
Invasions of India.—By Major R. G. BURTON, Secretary, United Service Institution of India ...	207
British Cavalry in India.—By Lieutenant R. F. W. ASHWORTH, 5th Dragoon Guards ...	244
Individuality and invisibility in uniforms.—By E. C. A. ...	248
Litters for carrying sick and wounded.—By Major W. KIRKPATRICK, D.S.O., 1st Punjab Infantry ...	254
Napoleon as a General.—By HISTORICUS ...	256
The Training of the Native Infantry Recruit.—By Major F. V. WHITTALL, 1st Infantry, Hyderabad Contingent ...	267
Horse-breeding in India.—By General Sir JOHN WATSON, V.C. ...	272
Prices of foreign papers ...	274
List of medallists of the institution ...	283

Supplement to the Journal for July:—

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Gold Medal Essay.—By Major W. G. HAMILTON, D.S.O., Norfolk Regiment ...	I
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III.—By Major J. C. RIMINGTON, R.E. ...	50
IV.—By Colonel F. M. RUNDALL, D.S.O., 14th Gurkha Rifles ...	82
V.—By Captain T. O. MARTIN, Cheshire Regiment ...	122
VI.—By Lieutenant-Colonel G. P. RANKEN, 40th Punjab Infantry ...	157

The Campaign in Kumaon.—By Major W. G. HAMILTON, D.S.O., Norfolk Regiment ...	285
The Sikh Religion and its advantages to the State—Lecture.—By M. MACAULIFFE, Esq., late I. C. S. ...	300
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Scheme for a Corps of Native Mounted Scouts.—By Captain J. M. WICKES, 17th Buffs and Lancers ...	381
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Notes on a Reorganisation Scheme for Native Infantry.—By Lieutenant G. H. SAWYER, 25th Punjab Pioneers ...	409
The Disposal of the Wounded of Cavalry.—By Lieutenant-Colonel H. G. HATHAWAY, R. A. M. C. ...	421
Précis of Foreign Military papers:—	
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List of medallists of the Institution ...	437

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General ...	Browne, H. R. ...	Retired.
Colonel ...	Bruce, E. A. ...	Retired.
Captain ...	Bruce J. E. L. ...	R. A.
Captain ...	Budd, N. A. H. ...	6th Bombay Infantry.
Major ...	Cadell, A. ...	38th Dogra Infantry.
Major ...	Campbell, A. A. E. ...	25th Punjab Infantry.
Captain ...	Campbell, A. J. ...	26th Madras Infantry.
Captain, v.D. ...	Carnell, N. M. ...	Burma Railway Vols.
Lt.-Colonel ...	Carter, F. C. ...	Royal Berkshire Regt.
Major ...	Cockerill, G. K. ...	Royal War. Regiment.

LIFE MEMBERS -Contd

Rank.	Name	Corps, &c.
Colonel	Colonel, J. F. F.	S. C.
Colonel H. H. Bahadur, G. J. E., C.B., A. I. C.	Colonel, P. L. S. Maharaja Sir Sripendra Narayan Sahu	6th Bengal Cavalry
Captain	Cropper, W. G.	4th Bombay Cavalry
Captain	Davidson Houston, C.E.D.	5th Punjab Infantry.
Colonel, p. s. o.	Deshon, C. J.	Late R. A.
Major	Dewing, R. H.	16th Madras Infantry.
Colonel, C.B., C.I.E.	Durand, A. G. A.	S. C.
Lt. Col., <i>Bart.</i> C.B.	Durand, Sir E. L.	S. C.
Lt. Colonel	Earley Williams, A.	R. A.
Major, M.B., C.M.B.	Edwards, W. R.	I. M. S.
Major	Egerton, R. G.	1st Queen's Own Cavalry
The Honble, <i>Member</i> C.I.E.	Elliot, Sir C. A.	C. S.
Esquire, M. D.	Evans, Griffith	Retired.
Major	Evbank, W.	R. E.
Br. General	Finn, H.	Late 21st Lancers
Major	Fowle, T. E.	Bombay Artillery
Colonel	Francis, G. F.	A. A. General
Captain	Fraser, G. S.	6th Infantry H. C.

LIFE MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Captain, D.S.O. ...	Fulton, H. T. ...	2-2nd Gurkha Rifles.
Major-Genl., C.B....	Gatacre, J. ...	S. C.
Major ...	Gibbings, H. C. C. ...	Retired.
Major-Genl., C.B....	Gosset, M. W. E. ...	Retired.
Lt. Colonel ...	Gowan, W. E. ...	Retired.
Colonel ...	Graves, S. H. P. ...	A. A. General.
Major ...	Grimston, S. B. ...	18th Bengal Lancers.
Colonel H. H., G.C.S.I., A.D.C.	Gwalior, Maharaja Adhiraj Sir Madho Rao Sindbia of—	.....
Colonel, C.B., A.D.C.	Haig, D. ...	17th Lancers.
Colonel ...	Hanna, H. B. ...	S. C.
Lt.-Col., D.S.O. ...	Headlam, J. E. W. ...	R. A.
Major ...	Hodson, G. B. ...	Guides Infantry.
Captain ...	Hogg, T. C. M. T. ...	8th Bengal Lancers.
Col., K.C.I.E., C.B....	Holdich, Sir T. H. ...	Late R. E.
Major ...	Holland-Pryor, P. ...	13th Bengal Lancers.
Lieut.-Genl., K.C.B., D.S.O.	Hunter, Sir A. ...	Comdg. Scottish Dist.
Lt.-Colonel ...	James, M. ...	S. C.
Leutenant ...	Hes, F. A. ...	R. E.
Lt.-Colonel ...	Jennings, R. H. ...	R. E.

LIFE MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Colonel ...	Cologan, J. F. F. ...	S. C.
Colonel H. H. Bahadur, G. I. E., C. B., A. D. C.	Cooch Behar, Maharaja Sir Nripendra Narayan of—	6th Bengal Cavalry.
Captain ...	Cooper, W. G. ...	4th Bombay Cavalry.
Captain ...	Davidson-Houston, C. E. D.	5th Punjab Infantry.
Colonel, D. S. O. ...	Deshon, C. J. ...	Late R. A.
Major ...	Dewing, R. H. ...	16th Madras Infantry.
Colonel, C. B., C. I. E.	Durand, A. G. A. ...	S. C.
Lt.-Col., <i>Bart</i> , C. B.	Durand, Sir E. L. ...	S. C.
Lt.-Colonel ...	Eardley-Wilmot, A. ...	R. A.
Major, M. D., C. M. G.	Edwards, W. R. ...	I. M. S.
Major ...	Egerton, R. G. ...	"Q.O." Corps of Guides
The Hon'ble, K. C. S. I., C. I. E.	Elliot, Sir C. A. ...	C. S.
Esquire, M. D. ...	Evans, Griffith ...	Retired.
Major ...	Ewbank, W. ...	R. E.
Br.-General ...	Finn, H. ...	Late 21st Lancers.
Major ...	Fowle, T. E. ...	Bedfordshire Regt.
Colonel ...	Francis, G. F. ...	A. A. General.
Captain ...	Frazer, G. S. ...	6th Infantry, H. C.

LIFE MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Lt.-Col., Nawab Afser-i-Jang, Afsar-uddula Bahadur, C.I.E.	Muhammed Ali Beg ...	3rd Lancers, H. C.
Colonel, C.B., C.I.E.	Muir, C. W. ...	Comdg. at Delhi.
Captain ...	Muscroft, W. St. C. ...	S. and Trans. Officer.
Colonel, C.B. ...	Nixon J. E. ...	A. Q. M. Genl., I.B.
Lieut.-Colonel the Hon'ble.	Noel, E. ...	Late Rifle Brigade.
Esquire ...	Ogilvie, G. M. ...	C. S.
Colonel ..	Olivier, H. D. ...	R.E.B.B. & C.I. Ry. Vols.
Lieutenant ...	Orton, E. F. ...	7th Bombay Lancers.
Lt.-Colonel ...	Phayro, A. ...	3rd Bombay Cavalry.
Captain ...	Pilleau, A. L. ...	5th Bombay Infantry.
Colonel ...	Pollock, J. A. H. ...	1st Sikh Infantry.
Major ...	Prendergast, C. G. ...	4th Punjab Infantry.
Lt.-Colonel, D.S.O.	Presgrave, E. R. J. ...	A. A. General.
Major-General, C.B. C.S.I.	Protheroe, M. ...	Comdg. Burma Dist.
Captain ...	Ray, M. R. E. ...	7th Rajput Infantry.
Lieutenant ...	Reichwald, W. F. ...	R. H. A.
Lt.-Colonel ...	Renny, A. MacW. ...	7th Bengal Lancers.

LIFE MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Captain ...	Kaye, W. J. P. ...	30th Punjab Infantry.
Major ...	Kerrich, G. S. ...	1st Madras Lancers.
Colonel ...	King-Harman, M. J. ...	S. C.
Major, D.S.O. ...	Knight, W. C. ...	4th Bengal Lancers. .
The Hon'ble, K.C.S.I.	La Touche, Sir J. J. D.	Lt.-Govr., U. P. Agra and Oudh.
Colonel ...	Lawford, E. E. M. ...	Comdg. at Rangoon.
Captain ...	Lee, A. W. H. ...	8th Gurkha Rifles.
Lt.-Genl., C.B. ...	Little, H. A. ...	S. C.
Lt.-Colonel ..	Lowry, W. H. ...	28th Madras Infantry.
Major ...	McIntyre, H. D. ...	8th Gurkha Rifles.
Lt. Colonel, C.I.E.	McKay, H. K. ...	I. M. S.
Major ...	McRobert, A. ...	Cawnpore Vol. Rifles.
Lt.-Colonel ...	Manifold, C. C. ...	I. M. S.
Lt.-Colonel, C.M.G.	Manifold, J. F. ...	R. A.
Major ...	Maxwell, A. G. ...	6th Bengal Cavalry.
Lt.-Colonel ...	Mayne, C. B. ...	R. E.
Major, C.B. ...	Mercer, H. F. ...	R. A.
Captain ...	Moore, F. L. ...	3rd Bengal Cavalry.
Colonel ...	Morley, F. ...	Retired.
Lieutenant ...	Morton, S. ...	24th Punjab Infantry.

LIFE MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Lt.-Col., Nawab Afser-i-Jang, Afsar-uddula Bahadur, C.I.E.	Muhammed Ali Beg ...	3rd Lancers, H. C.
Colonel, C.B., C.I.E.	Muir, C. W. ...	Comdg. at Delhi.
Captain ...	Muscroft, W. St. C. ...	S. and Trans. Officer.
Colonel, C.B. ...	Nixon J. E. ...	A. Q. M. Genl., I.B.
Lieut.-Colonel the Hon'ble.	Noel, E. ...	Late Rifle Brigade.
Esquire ...	Ogilvie, G. M. ...	C. S.
Colonel ..	Olivier, H. D. ...	R.E.B.B. & C.I. Ry. Vols.
Lieutenant ...	Orton, E. F. ...	7th Bombay Lancers.
Lt.-Colonel ...	Phayre, A. ...	3rd Bombay Cavalry.
Captain ...	Pilleau, A. L. ...	5th Bombay Infantry.
Colonel ...	Pollock, J. A. H. ...	1st Sikh Infantry.
Major ...	Prendergast, C. G. ...	4th Punjab Infantry.
Lt.-Colonel, D.S.O.	Presgrave, E. R. J. ...	A. A. General.
Major-General, C.B. C.S.I.	Protheroe, M. ...	Comdg. Burma Dist.
Captain ...	Ray, M. R. E. ...	7th Rajput Infantry.
Lieutenant ...	Reichwald, W. F. ...	R. H. A.
Lt.-Colonel ...	Renny, A. MacW. ...	7th Bengal Lancers.

LIFE MEMBERS.—Contd.

Rank.	Name.	Corps, &c.
Field Marshal the Right Hon'ble, V.C., K.G., K.P., G.C.B., G.C.S.I., G.C.I.E.	Roberts, Earl	C-in.-Chief, War Office.
Major	Roe, C. H.	R. E.
Colonel	Sawyer, H. A.	S. C.
Captain	Scharlieb, W. K.	5th Bengal Cavalry.
Captain	Seton, B. G.	I. M. S.
Lt.-Colonel	Smith, J. G.	S. and Trans. Dept.
Major-Genl., D.S.O.	Smith Dorrien, H. L.	Adjutant Genl. in India.
Colonel	Stainforth, W.	Retired.
Captain	Stevens, S. R.	33rd Burma Infantry.
Lieutenant	Stoney, P. S.	26th Punjab Infantry.
Major	Stewart, J. M.	2-5th Gurkha Rifles.
General, K.C.B.	Stewart, Sir B. C.	Indian Army.
Lt.-Colonel	Stockley, V. M.	16th Bengal Lancers.
Captain	Sweet, E. H.	2-2nd Gurkha Rifles.
Lieutenant	Thomson, H.	Cawnpore Vol. Rifles.
The Hon'ble, K.C.I.E. C.S.I.	Tupper, Sir C. L.	Financial Commissioner Punjab.
Lt.-Colonel	Turner, G. H.	24th Baluch Infantry.
Captain	Vaughan, E. G.	S. and Trans. Officer.

LIFE MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Major	Walton, W. C.	23rd Bombay Rifles.
Captain	Whitehead, J. H.	33rd Burma Infantry.
Major	Williams, G.	R. E.
Colonel	Willock, G. W.	Indian Army.
Colonel	Wilson, C. W. H.	Retired.
Lt-Colonel	Worlledge, J. F.	2nd Madras Infantry.
Lieutenant	Wright, C. H. B.	1st Infantry, H. C.
Major	Wynch, F. J. H.	37th Dogra Infantry.
Lt-Colonel	Yate, A. C.	29th Baluch Infantry.
The Hon'ble, K.C.S.I.	Young, Sir W. M.	C. S.
Captain	Younghusband, L. N.	19th Bengal Lancers.

ORDINARY MEMBERS.

Rank.	Name.	Corps, &c.
Br.-General ...	Abbott, F. ...	Comdg. at Nasirabad.
Br.-General, c.B....	Abbott, H. A. ...	Comdg. Allahabad Dist.
Lt.-Col., D.S.O. ...	Abbott, H. E. S. ...	R. E.
Esquire ...	Acres, T. G. ...	District Traffic Supdt., [N.W. Ry.]
Lieutenant ...	Adair, W. F. ...	30th Baluch Infantry.
Captain ...	Adam, F. L. ...	Scots Guards.
Col. v.c., c.B., A.D.C.	Adams, R. B. ...	Corps of Guides.
Major, D.S.O. ...	Agnew, Q. G. K. ...	Manchester Regt.
The Hon'ble, M. A.	Aikman, R. S. ...	C. S.
Major ...	Aitken, A. E. ...	19th Bombay Infantry.
Lieutenant, D.S.O.	Alexander E. C. ...	1st Punjab Infantry.
Captain ...	Alexander, H. S. ...	Eurinpura Irregular Force
Major ...	Alexander, R. S. ...	7th Bengal Lancers.
Lt.-Colonel ...	Allen, A. J. W. ...	A. A. General.
Major ...	Allen, R. F. ...	R. E.
Captain ...	Allen, W. J. B. ...	R. A.
Lieutenant ...	Allgood, B. ...	Royal Irish Rifles.
Major ...	Anderson C. C. ...	33rd Punjab Infantry.
Major ...	Anderson, J. H. A. ...	Manchester Regt.
Lt.-Colonel ...	Angelo, F. W. P. ...	9th Bengal Lancers.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Captain, D.S.O. ...	Annesley, J. H. A. ...	3rd Dragoon Guards.
Lt.-Colonel ...	Aplin, P. J. H. ...	7th Bombay Pioneers.
Lt.-Colonel ...	Appleton, H. ...	R. E.
Major ...	Archer, C. ...	Dy. Commissioner.
Captain ...	Armstrong, J. C. ...	Roy. Innis Fus.
Captain ...	Arnold, A. S. ...	1st Madras Lancers.
Maj.-General ...	Arnott, N. ...	R. E.
The Hon'ble, C.S.I.	Arundel, A. T. ...	Member of the Viceroyal [Council.]
Lt.-Colonel ...	Aslett, W. C. ...	S. C.
Lt.-Colonel ...	Atkinson, F. G. ...	17th Bengal Lancers.
Esquire ...	Atkinson, G. W. E. ...	Late Survey Dept.
Colonel, V.O. ...	Aylmer F. J. ...	A. Q. M. General.
Captain ...	Badcock A. J. ...	S. and Trans. Officer.
Lt.-Genl., K.C.B., C.S.I.	Badcock, Sir A. R. ...	S. C.
Major ...	Baddely, C. E. ...	R. E.
Maj.-Genl., C.B. ...	Baden-Powell, R. S. S. ...	South Africa Const.
Lt.-Colonel ...	Bailward, A. C. ...	R. A.
Major, D.S.O. ...	Baldwin, G. M. ...	Corps of Guides.
Lt.-Colonel ...	Balfour, J. H. ...	13th Bengal Lancers.
Captain ...	Balfour, P. ...	Highland L. I.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Major ...	Ballard, C. R. ...	Norfolk Regt.
Major ...	Banbury, W. E. ...	2nd Bn. Moplah Rifles.
Lt.-Col. the Hon'ble	Baring, E. ...	Mily. Secy. to H. E. Viceroy
Br.-General ...	Barlow, J. A. ...	
Captain ...	Barnard, A. B. ...	3rd Bn. Calcutta Vol. [Rifles.
Maj.-Genl., K. C. B. ...	Barrow, Sir E. G. ...	Secy. to Govt., M. Dept.
Major ...	Barrow, G. de S. ...	4th Bengal Lancers.
Captain ...	Barton, H. J. ...	R. E.
Captain ...	Basevi, W. H. F. ...	31st Burma Infantry.
Reverend ...	Bateson, J. H. ...	.....
Captain ...	Batten, F. G. ...	1st Madras Pioneers.
Captain ...	Battine, C. W. ...	15th Hussars.
Lieutenant ...	Battye, H. M. ...	1-5th Gurkha Rifles.
Captain ...	Bayley, L. S. ...	R. A.
Lt.-Col., C. B., D. S. O.	Bayly, A. W. L. ...	A. A. General.
Major ...	Bazalgette, L. H. ...	2nd Suffolk Regiment.
Lt.-Colonel ...	Beale, A. ...	5th Bombay Infantry.
Major ...	Beames, D. ...	S. C.
Lt.-Colonel ...	Beatson, C. H. ...	I. M. S.
Br.-Genl., C. B. ...	Beatson, S. B. ...	I. G. Impl., S. Troops.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Captain ...	Beatty, L. N. ...	1st Bombay Lancers.
Esquire ...	Becher, A. R. ...	P. W. D.
Major ...	Becher, H. W. ...	West Riding Regiment.
Captain ...	Bell, J. B. ...	32nd Punjab Pioneers.
Lt.-Colonel, D.S.O.	Bell-Irving, A. ...	R. A.
Lt.-Colonel ...	Bellers, E. V. ...	Middlesex Regiment.
Maj.-Genl., C.B. ...	Bengough, H. M. ...	Retired.
Captain ...	Bentinck, R. J. ...	S. C.
The Hon'ble, C.I.E.	Beresford, J. S. ...	C. S.
Major ...	Beresford-Ash, W. R. H.	Royal Welsh Fus.
Major ...	Bethell, H. A. ...	R. A.
Major ...	Bethune, H. A. ...	Gordon Highlanders.
Major ...	Bewicke, H. B. N. ...	Late Manchester Regt.
Lt.-Colonel, C.B....	Bewicke-Copley, R.C.A.B.	King's Royal R. Corps.
Captain ...	Beynon, H. L. N. ...	R. A.
Major, D.S.O. ...	Beynon, W. G. L. ...	2-3rd Gurkha Rifles.
Major ...	Biddulph, S. F. ...	19th Bengal Lancers.
Major, D.S.O. ...	Biggs, H. V. ...	R. E.
Major ...	Bingley, A. H. ...	D. A. A. General.
Genl., R.C.I.E., C.B.	Bird, Sir G. C. ...	S. Corps.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Colonel ...	Bird, W. J. B. ...	Contr. of Mily. Accts.
Lt.-Colonel ...	Birdwood, W. S. ...	10th Bombay Infantry.
Lt.-General, c.B....	Biscoe, W. W. ...	S. Corps.
Colonel, K.C.I.E....	Bisset, Sir W. S. S. ...	R. E.
Br.-General ...	Black, W. C. ...	Comdg. Deesa Dist.
Lieutenant ...	Blair, G. L. ...	36th Sikhs.
Major ...	Blane, C. F. ...	R. H. A.
Lt.-General, K.C.B.	Blood, Sir B. ...	Comdg. the Forces, Punjab
Major ...	Blood, W. P. ...	2nd Royal Irish Fus.
Major ...	Blyth, H. R. ...	Royal Warwick. Regt.
Captain ...	Boddam, E. B. C. ...	2-5th Gurkha Rifles.
Major ...	Boileau, F. R. F. ...	R. E. ...
Lt.-Colonel, c.B. ...	Bond, F. G. ...	R. E. .
Major ...	Bonham-Carter, H. ...	R. E.
Lt.-Colonel, D.S.O.	Borradaile, H. B. ...	34th Punjab Pioneers.
Lt.-Colonel ...	Borton, A. C. ...	Late Somersetshire L.I.
Captain ...	Bosanquet, J. T. I. ...	2nd Border Regt.
Major ...	Boulnois, W. A. ...	R. A. ...
Lt.-Colonel ...	Bower, H. ...	17th Bengal Lancs.
Major ...	Bowes, W. H. ...	D. A. A. General.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Colonel, c.s.i. ...	Brackenbury, M. C. ...	R. E.
Major ...	Bradley, H. V. ...	2-2nd Gurkha Rifles.
Major ...	Bradshaw, F. E. ...	Dy. Commissioner.
Lt.-Colonel ...	Bradshaw, L. J. E. ...	17th Bengal Infantry.
Esquire ...	Bramley, P. B. ...	Dist. Supdt. Police.
Major ...	Brander, H. R. ...	32nd Punjab Pioneers.
Captain ...	Bredin, A. ...	12th Burma Infantry.
Major, d.s.o. ...	Bretherton, G. H. ...	S. and Trans. Officer.
Lieutenant ...	Breul F. A. ...	Gloucestershire Regt.
Colonel ...	Bromfield, F. W. ...	A. Q. M. General.
Major ...	Brooking, H. T. ...	D. A. A. General.
Major ...	Broghton, E. C. ..	York and L. Regt.
Captain ...	Brown, W. H. . .	2nd Bn. Moplah Rifles.
Br.-General ...	Browne, A. G. F. ...	Comdg. Mandalay Dist.
Lt.-Colonel ...	Browne, R. A. . .	1st Border Regiment.
Lt.-Colonel ...	Brownlow, C. B. ...	4th Sikh Infantry.
Lieutenant ...	Bruce, J. ...	19th Bengal Lancers.
Lt.-Colonel ...	Brunker, J. M. S. ...	R. A.
Captain ...	Brunner, F. W. ...	R. E.
Captain ...	Brush, J. E. R. ...	Royal Irish Fus.

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps, &c.
Major	...	Bryan, T. W. G.	...	R. A.
Major	...	Buck, W. T.	...	2nd Durham L. I.
Lt.-Colonel	...	Buckland, P. A.	...	Supdt. Army Clothing.
Colonel, c.B.	...	Bullock, G. M.	...	Late Devonshire Regt.
Lt.-Colonel	...	Bunbury, W. E.	...	14th Sikhs.
Captain	...	Bunbury, W. H.	...	R. E.
Lt.-Colonel	...	Burgess, F. F. R.	...	S. Corps.
Lt.-Colonel	...	Burn, A. E. P.	...	14th Sikhs.
Esquire	...	Burn, R. N.	...	Acctt. Genl. P. W. D.
Major	...	Burne, K. P.	...	38th Dogras.
Major	...	Burrowes, H. G.	...	R. A.
Captain	...	Burton, A. de S.	...	25th Bombay Rifles.
Captain	...	Burton, A. R.	...	1st Infantry, H. C.
Colonel	...	Burton, F. C.	...	S. C.
Major	...	Burton, R. G.	...	1st Infantry, H. C.
Major	...	Bythell, W. J.	...	R. E.
Major-Genl., c.B.	...	Caldecott, F. J.	...	Late R. A.
Lt.-Colonel	...	Callwell, A. H.	...	R. A.
Esquire	...	Campbell, A.	...	Asst. Supdt. Police.
Major	...	Campbell, C. F.	...	6th Bengal Cavalry.

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps, &c.
Major	...	Campbell, C. P.	...	C. I. Horse.
Captain	...	Campbell, I. H.	...	7th Bengal Lancers.
Captain	...	Campbell, J.	...	A. and S. Highlanders.
Br.-Genl., c. B.	...	Campbell, L. R. H. D.	...	Comdg. Bundelkhund.
Captain	...	Campbell, L. W. Y.	...	8th Gurkha Rifles [Dist.
Major, D. S. O.	...	Campbell, W.	...	Gordon Highlanders.
Major	...	Campbell, W. N.	...	S. C.
Lt.-Colonel	...	Candy, J. M.	...	14th Bombay Infantry.
Captain	...	Capper, A. S.	...	C. I. Horse.
Colonel	...	Capper, W. B.	...	A. A. General.
Major	...	Carbonaro, E.	...	S. Corps.
Lt.-Colonel	...	Cardew, F. G.	...	Dy. Secy., Mily. D.
Esquire	...	Carey, A. D.	...	C. S.
Captain	...	Carleton, H. A.	...	33rd Burma Infantry.
Col., C.I.E.	...	Carnac, J. H. Rivett	...	Retired.
Lt.-Colonel	...	Carnegy, P. M.	...	2-4th Gurkha Rifles.
Major the Hon'ble		Carnegie, R. F.	...	Gordon Highlanders.
Major	...	Carpendale, P. M.	...	21st Punjab Infantry.
Major	...	Carpendale, W. M.	...	8th Bengal Lancers.
Major	...	Carruthers, R. A.	...	11th Bengal Lancers.

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps, &c.
Captain	...	Carson, T.	...	Royal Irish Rifles.
Major	...	Carson, W. P.	...	Retired List.
Lt.-Colonel, c.m.g.		Carter, C. H. P.	...	Royal Scots.
Major	...	Carter, W. G.	...	Essex Regt.
Major	...	Carthew-Yorstoun, M. E.		4th Bombay Cavalry,
Major	...	Cartwright, C. M.	...	6th Bombay Cavalry.
Captain	...	Cattell, G. L.	...	2nd Bn. Moplah Rifles.
Major	...	Cavendish, C. C.	...	Border Regt.
Colonel, c.B.	...	Chamberlain, N. F. F. G.		S. Corps.
Captain	...	Chamier, A. T.	...	R. E.
General, v.c., c.B.		Channer, G. N.	...	S. C.
Lt.-Col., v.D.	...	Chanter, E. J.	...	2nd P. Vol. Rifles.
Lt.Col., v.c.	...	Chase, W. St. L.	...	28th Bombay Pioneers.
Major	...	Chenevix-Trench, G. F.		Political Agent.
Captain	...	Chesney, N. E.	...	2-5th Gurkha Rifles.
Captain	...	Cheyne, A. Y.	...	15th Bengal Lancers.
Major	...	Cheyne, R. E.	...	8th Bengal Lancers.
Captain	...	Chitty, W. W.	...	19th Bombay Infantry.
Captain	...	Chrystie G.	...	5th Punjab Cavalry
Major	...	Churchill, A. B. N.	...	R. A.

ORDINARY MEMBERS—Contd.

Rank.		Name.	Corps &c.
Colonel	...	Clarke, H.	R. E.
Major	...	Clay, C. H.	43rd Gurkha Rifles.
Captain	...	Clay, S.	43rd Gurkha Rifles.
Lieutenant	...	Clayton, E. R.	2nd Oxfordshire L. I.
Captain	...	Close, L. H.	R. E.
Lt.-Colonel	...	Clothier, R. F.	27th Madras Infantry.
Colonel	...	Coats, G. H. B.	S. C.
Captain	...	Cockle, M. J. D.	Late Border Regt.
Lt.-Col., D.S.O.	...	Cole, A. W. G. L.	R. Welsh Fusiliers.
Esquire	...	Cole, C. J.	Public Works Dept.
Major	...	Cole, E. H.	11th Bengal Lancers.
Lt.-Colonel	...	Cole, H. H.	Late R. E.
Major	...	Coleman, W. F.	Suffolk Regiment.
Captain, D.S.O.	...	Collen, E. H. E.	R. A.
Maj.-Genl., G.C.I.E., C.B.,	...	Collen, Sir E. H. H.	S. C.
Captain	...	Collins, G. G.	U. Burma Vol. Rifles.
Major	...	Colomb, F. C.	42nd Gurkha Rifles.
Major	...	Combe, L.	1st Scottish Rifles.
Major	...	Comins, H.	1st Brahman Infantry.
Major	...	Compton, T. E.	Northamptonshire Regt.

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps, &c.
Captain	...	Conner, R.	...	Gloucestershire Regt.
Major	...	Conran, W. L.	...	25th Bombay Infantry.
Major	...	Cook, H. R.	...	R. A.
Lt.-Colonel	...	Cook, W.	...	S. C.
Maj.-General	...	Cooke, T. A.	...	.....
Lt.-Col., D.S.O.	...	Cookson, G. A.	...	16th Bengal Lancers.
Captain	...	Cooper, H. A.	...	2nd Madras Infantry.
Captain	...	Corbyn, E. C.	...	18th Bengal Lancers.
Major	...	Cordue, W. G. R.	...	R. E.
Lt.-Col., D.S.O.	...	Couchman, G. H. H.	...	Somersetshire L. I.
Captain	...	Coutts, E. G.	...	2nd Punjab Vol. Rifles.
Lt.-Colonel	...	Cowley, J. W.	...	43rd Gurkha Rifles.
Major	...	Cowper, M.	...	10th Bengal Lancers.
Major	...	Cox, F. W. H.	...	12th Burma Infantry.
Lt.-Colonel	...	Cox, H. V.	...	9th Madras Infantry.
Lieutenant	...	Cox, T. S.	...	16th Bengal Lancers.
Colonel, C.B.	...	Coxhead, J. A.	...	R. A.
Br.-General	...	Craigie, J. H. S.	...	Comdg. Sind Dist.
Maj.-Genl., V.C., C.B.	...	Creagh, O'M.	...	S. C.
Major	...	Creagh, R. C. O.	...	5th Punjab Infantry.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps &c.
Captain	Crookshank, C. de W. ...	R. E.
Lieutenant	... Crookshank, W. P. ...	1-1st Gurkha Rifles.
Captain	... Crosthwaite, J. G. ...	Asst. Commissioner.
Major	... Crowe, J. H. V. ...	R. A.
Lt.-Colonel	... Crowther, R. T. ...	24th Madras Infantry.
Captain	... Cruddas, H. W. ...	38th Dogra Infantry.
Captain	... Cuffe, O. F. L. W. ...	U. Burma Vol. Rifles.
Captain	... Cumberlege, C. J. ...	23rd Bombay Rifles.
Captain	... Cunningham, A. H. ...	R. E.
Major	... Cuppage, W. A. ...	48th Bengal Pioneers.
Major, D.S.O.	... Cure, H. C. ...	1st Gloucestershire Regt
Colonel, C.B.	... Currie, T. ...	N. Staffordshire Regt.
Major	... Dallas, A. ...	Durham Lt. Infantry
Maj.-Genl., C.B. ...	Dalrymple, W. L. ...	Retired.
Major, C.S.I., C.I.E.	Daly, H. ...	Dy. Secy., Foreign Dept.
Lieutenant	... Daukes, C. T. ...	2-39th Garhwal Rifles.
Captain	... Daunt, W. D. ...	C. I. Horse.
Major	... Davidson, C. ...	2nd Sikhs.
Lieutenant	... Davidson, H. M. ...	6th Bombay Cavalry.
Captain	... Davidson, S. R. ...	47th Sikhs.

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps, &c.
Major	...	Davies, H. R.	...	Oxfordshire L. Infy.
Lt.-Col., D.S.O.	...	Davies, T. A. H.	...	Devonshire Regt.
Major	...	Davis, C.	...	1st Bengal Lancers.
Lt.-Colonel	...	Davison, K. S.	...	2nd Bengal Lancers.
Captain	...	Davy, R. M. M.	...	Gloucestershire Regt.
K.C.B.	...	Dawkins, Sir C. E.	...	.....
Lt.-Colonel	...	Dawkins, H. S.	...	R. A.
Captain	...	Dawson, E.	...	Rangoon Vol. Rifles.
Captain	...	Day, A. C. Fitz R.	...	1st Dorsetshire Regt.
Lt.-Colonel	...	Day, J. G.	...	R. E.
Colonel, C.I.E.	...	DeBrath, E.	...	Joint Secy., Mily. Dept.
Captain	...	deLabilliere, E. G. D.	...	22nd Punjab Infantry.
Capt., C.M.G., C.I.E.	...	De Læssøe, A. F.	...	Pol. Agent.
Major	...	Delamain, W. S.	...	23rd Bombay Rifles.
Lt.-Col. C.B., D.S.O.	...	DeLisle, H. De B.	...	5th Dragoon Guards.
Major	...	Denne, A. R.	...	2nd Madras Infantry.
Colonel	...	Des Vœux, C. H.	...	36th Sikhs.
Lt.-Colonel	...	Dewar, D. E.	...	R. A.
Major	...	Dick, A. R.	...	2nd Punjab Cavalry.
Captain	...	Dickson J. H.	...	S. and Trans. Officer.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps &c.
Lt.-Colonel ...	Dillon, G. F. H. ...	26th Punjab Infantry.
Lieutenant ...	Dixon, C. S. ...	Royal Irish Rifles.
Major ...	Dixon, P. E. ...	R. E.
Major ...	Dobbin, W. J. K. ...	1st Sikh Infantry.
Esquire ...	Donaldson, P. ...	
Captain ...	Donlea, T. ...	Retired List.
Captain ...	Donnan, W. ...	S. C.
Major-Genl., K.C.B., D.S.O.	Dorward, Sir A. R. F. ...	R. E.
Vice-Admiral ...	Douglas, A. C. ...	R. N.
Major ...	Douglas, J. A. ...	2nd Bengal Lancers.
Captain ...	Douglas, W. B. ...	8th Rajput Infantry.
Captain ...	Dowding, H. H. H. ...	2nd Essex Regiment.
Major ...	Dowell, G. C. ...	R. A.
Captain ...	Drummond, E. J. ...	S. C.
Lt.-Col., C.I.E. ...	Drummond, F. H. R. ...	C. I. Horse.
Lieutenant ...	Duckett, J. S. ...	9th Lancers.
Major ...	Dudgeon, F. A. ...	D. A. A. General.
Br.-Genl., C.B., C.I.E.	Duff, B. ...	D. A. General.
Lieutenant ...	Duff, B. O. ...	1st Gurkha Rifles.
Captain ...	Duff, G. M. ...	R. E.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Major ...	Duhan, W. W. T. ...	R. A.
Lt.-Colonel M.D.,...	Duncan, A. ...	I. M. S.
Lt.-Colonel, M.B....	Duncan, G. ...	I. M. S.
Captain ...	Duncan, S. ...	Late Gloucestershire Regt
Captain ...	Dunolly, K. J. G. ...	5th Madras Infantry.
Lt.-Colonel ...	Dunsterville, A. B. ...	East Surrey Regt.
Major ...	Dunsterville, K. S. ...	R. A.
Colonel ...	Duperier, H. W. ...	R. E.
K.C.S.I., K.C.I.E. ...	Durand, Sir H. M. ...	C. S.
Colonel ...	Duthy, A. E. ...	R. A.
Colonel, C. B. ...	Dyce, G. H. C. ...	Comdg. at Multan.
Major ...	Dyer, A. E. ...	U. Burma Vol. Rifles.
Captain ...	Dyer, R. E. H. ...	29th Punjab Infantry.
Major ...	Eardley-Wilmot, I. ...	18th Bengal Lancers.
Major ...	Earle, F. A. ...	Royal War. Regt.
Captain, D.S.O. ...	East, L. W. P. ...	R. A.
Captain ...	Eccles, C. J. ...	16th Lancers.
Major ...	Edmiston, W. L. ...	Nilgiri Vol. Rifles.
Major, D.S.O. ...	Edwards, F. J. M. ...	3rd Bombay Cavalry.
Major, D.S.O. ...	Edwards, J. B. ...	C. I. Horse.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps &c.
Major-Genl., K.C.B., D.S.O., A.-D.-C.	Egerton, Sir C. C. ...	Comdg. Punjab Frontier [Force.
Major ...	Egerton, C. P. ...	Dy. Commissioner.
Lieutenant ...	Ellas, A. H. W. ...	2-1st Gurkha Rifles.
The Hon'ble Major-Genl., K.C.B.	Elles, Sir E. R. ...	Mily. Member of Viceregal Council.
Major-Genl., K.C.B., D.S.O.	Elliot, Sir E. L. ...	I. G. of Cavalry in India.
Captain ...	Eustace, A. H. ...	2nd Sikhs.
General, C.B. ...	Evans, H. M. ...	S. C.
Lt.-Colonel, D.S.O.	Evatt, J. T. ...	2-39th Garhwal Rifles.
Captain ...	Everett, H. J. ...	Somersetshire L. I.
Colonel, C.M.G. ...	Exham, R. ...	R. A. M. C.
Captain ...	Fagan, H. R. ...	1st Punjab Infantry.
Captain ...	Fagan, L. E. ...	19th Madras Infantry.
Lt.-Colonel ...	Faithfull, H. T. ...	S. C.
Br.-General ...	Fancourt, St. J. M. ...	S. C.
Major ...	Fane, V. B. ...	1st Punjab Cavalry.
K.C.I.B., C.S.I.	Fanshawe, Sir A. U. ...	D.G., Post Office in India.
Lt.-Colonel ...	Fasken, C. G. M. ...	2nd Sikhs.
Major ...	Fasken, W. H. ...	10th Bengal Lancers.
Major ...	Faulknor, A. A. M. M....	2nd Bombay Grenadiers
Major ...	Fayrer, J. O. S. ..	1-5th Gurkha Rifles.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps &c.
Major	... Fegen, M. F.	... R. A.
Major	... Fell, R. B.	... Scottish Rifles
Major, D.S.O.	... Fenlall, C. P.	... A. A. General.
Lt Colonel	... Fenton, A. B.	... S. C.
Captain	... Fergusson, A. C.	... R. A.
Captain	... Fergusson, H. C.	... Highland L. Infantry
Lt Col, D.S.O.	... Fernier, J. A.	... R. E.
Major	... Finch, C.	... 1st Bengal Lancers
Captain	... Finch, E. H. P.	... Late E. Lancashire Regt
Major	... Fink, G. H.	... I. M. S.
Esqr, C.S.I.	... Finlay, J. F.	... Secy, Finance Dept
Lt Colonel	... Finns, H.	... R. E.
Captain	... Firth, E. W. A.	... 2nd Madras Infantry
Major	... Fisher, J.	... 12nd Gurkha Rifles.
Lt Colonel	... Fitzgerald, C. M.	... S. & Transport Officer
Major	... FitzMaurice, R.	... R. A.
Lt Colonel	... Fleming, A. S.	... Moulnadin Vol. Rifles.
Captain	... Foord, E. R.	... Insp'r Mily. Accounts.
Lt Colonel	... Forbes, A. W.	... 4th Baulay Cavalry.
Colonel, C.M.	... Forbes, W. E. G.	... A. A. General

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps, &c.
Major	...	Forde, L.	...	R. A.
Captain	...	Forestier-Walker, C.E.	...	R. A.
Captain	...	Forman, D. E.	...	R. A.
Lieutenant	...	Forrest, R. T. E. L.	...	B.B. & C.I. Ry. V. Rifles.
Captain	...	Forth, C. T. W.	...	30th Punjab Infantry.
Major	...	Foss, K. M.	...	S. C.
Captain	...	Fowler, C. A.	...	22nd Punjab Infantry.
Captain	...	Fox, E. V.	...	N. Staffordshire Regt.
Captain	...	Fox-Strangways, T. S.	...	Royal Irish Rifles.
Surgn-Genl., K.C.I.E., K.H.P.		Franklin, Sir B.	...	I. M. S.
Captain	...	Fraser, L. D.	...	R. A.
Captain	...	Fraser, N. G.	...	4th Bombay Cavalry.
The Hon'ble, K.C.S.I.		Fryer, Sir F. W. R.	...	Lt-Governor, Burma.
Major	...	Fuller, R. W.	...	R. A.
Lieutenant	...	Furse, G. A.	...	R. H. A.
Captain	...	Fyffe, B. O.	...	Gloucestershire Regt.
Captain	...	Gabbett, E.	...	U. Burma Vol. Rifles.
Surg-Genl., K.C.M.G. C.B., M.D.		Gallwey, Sir T. J.	...	P. M. O., His Majesty's Forces in India.
Colonel	...	Garbett, C. H. V.	...	S. C.
Captain	...	Gardiner, A.	...	R. E.

ORDINARY MEMBERS—Contd

Rank.	Name.	Corps, &c.
Major	... Davies, H. R.	... Oxfordshire L. Infy.
Lt. Col., D.S.O.	... Davies, T. A. H.	... Devonshire Regt.
Major	... Davis, C.	... 1st Bengal Lancers
Lt. Colonel	... Davison, K. S.	... 2nd Bengal Lancers
Captain	... Davy, R. M. M.	... Gloucestershire Regt.
K.C.B.	... Dawkins, Sir C. E.	...
Lt. Colonel	... Dawkins, H. S.	... R. A.
Captain	... Dawson, E.	... Rangoon V.L. Infy.
Captain	... Day, A. C. Fitz R.	... 1st Dorsetshire Regt.
Lt. Colonel	... Day, J. G.	... R. E.
Colonel, C.M.G.	... De Balth, E.	... Joint Secy, Milly. Dept.
Captain	... de Laballiere, E. G. D.	... 22nd Punjab Infantry.
Capt., C.M.G., C.B.	... De Lasser, A. F.	... Pol. Agent.
Major	... Delamain, W. S.	... 23rd Bombay Rifles
Lt. Colonel, C.B.	... De Lisle, H. De B.	... 5th Dragoon Guards.
Major	... Deneo, A. R.	... 2nd Madras Infantry
Colonel	... Des Vaux, C. H.	... 36th Sikhs
Lt. Colonel	... Dewar, D. E.	... R. A.
Major	... Dick, A. R.	... 2nd Punjab Cavalry.
Captain	... Dickson, J. H.	... Small Trans. Officer.

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps &c.
Lt.-Colonel	...	Dillon, G. F. H.	...	26th Punjab Infantry.
Lieutenant	...	Dixon, C. S.	...	Royal Irish Rifles.
Major	...	Dixon, P. E.	...	R. E.
Major	...	Dobbin, W. J. K.	...	1st Sikh Infantry.
Esquire	...	Donaldson, P.	...	
Captain	...	Donlea, T.	...	Retired List.
Captain	...	Donnan, W.	...	S. C.
Major-Genl., K.C.B., D.S.O.		Dorward, Sir A. R. F.	...	R. E.
Vice-Admiral	...	Douglas, A. C.	...	R. N.
Major	...	Douglas, J. A.	...	2nd Bengal Lancers.
Captain	...	Douglas, W. B.	...	8th Rajput Infantry.
Captain	...	Dowding, H. H. H.	...	2nd Essex Regiment.
Major	...	Dowell, G. C.	...	R. A.
Captain	...	Drummond, E. J.	...	S. C.
Lt.-Col., C.I.E.	...	Drummond, F. H. R.	...	C. I. Horse.
Lieutenant	...	Duckett, J. S.	...	9th Lancers.
Major	...	Dudgeon, F. A.	...	D. A. A. General.
Br.-Genl., C.B., C.I.E.		Duff, B.	...	D. A. General.
Lieutenant	...	Duff, B. O.	...	1-1st Gurkha Rifles.
Captain	...	Duff, G. M.	...	R. E.

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps &c.
Major	...	Fegen, M. F.	...	R. A.
Major	...	Fell, R. B.	...	Scottish Rifles.
Major, D.S.O.	...	Fendall, C. P.	...	A. A. General.
Lt.-Colonel	...	Fenton, A. B.	...	S. C.
Captain	...	Fergusson, A. C.	...	R. A.
Captain	...	Fergusson, H. C.	...	Highland L. Infantry.
Lt.-Col., D.S.O.	...	Ferrier, J. A.	...	R. E.
Major	...	Finch, C.	...	1st Bengal Lancers.
Captain	...	Finch, E. H. F.	...	Late E. Lancashire Regt
Major	...	Fink, G. H.	...	I. M. S.
Esqr., C.S.I.	...	Finlay, J. F.	...	Secy., Finance Dept.
Lt.-Colonel	...	Finnis, H.	...	R. E.
Captain	...	Firth, E. W. A.	...	9th Madras Infantry.
Major	...	Fisher, J.	...	1-2nd Gurkha Rifles.
Lt.-Colonel	...	FitzGerald, C. M.	...	S. & Transport Officer.
Major	...	FitzMaurice, R.	...	R. A.
Lt.-Colonel	...	Fleming, A. S.	...	Moulmein Vol. Rifles.
Captain	...	Foord, E. R.	...	Inspr. Mily. Accounts.
Lt.-Colonel	...	Forbes, A. W.	...	4th Bombay Cavalry.
Colonel, C.B.	...	Forbes, W. E. G.	...	A. A. General.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Major ...	Forde, L. ...	R. A.
Captain ...	Forestier-Walker, C.E....	R. A.
Captain ...	Forman, D. E. ...	R. A.
Lieutenant ...	Forrest, R. T. E. L. ...	B.B.&C.I.Ry. V. Rifles.
Captain ...	Forth, C. T. W. ...	30th Punjab Infantry.
Major ...	Foss, K. M. ...	S. C.
Captain ...	Fowler, C. A. ...	22nd Punjab Infantry.
Captain ...	Fox, E. V. ...	N. Staffordshire Regt.
Captain ...	Fox-Strangways, T. S. ...	Royal Irish Rifles.
Surgn.-Genl., K.C.I.E., K.H.P.	Franklin, Sir B. ...	I. M. S.
Captain ...	Fraser, L. D. ...	R. A.
Captain ...	Fraser, N. G. ...	4th Bombay Cavalry.
The Hon'ble, K.C.S.I.	Fryer, Sir F. W. R. ...	Lt.-Governor, Burma.
Major ...	Fuller, R. W. ...	R. A.
Lieutenant ...	Furse, G. A. ...	R. H. A.
Captain ...	Fyffe, B. O. ...	Gloucestershire Regt.
Captain ...	Gabbett, E. ...	U. Burma Vol. Rifles.
Surg.-Genl., K.C.M.G. C.B., M.D.	Gallwey, Sir T. J. ...	P. M. O., His Majesty's Forces in India.
Colonel ...	Garbett, C. H. V. ...	S. C.
Captain ...	Gardiner, A. ...	R. E.

ORDINARY MEMBERS—Contd.

Rank.	Name	Corps, &c
Captain ...	Gardner, R. M. S. ...	Gloucestershire Regt.
Captain ...	Garratt, H. S. ...	3rd Bombay Infantry.
Captain ...	Garraway, C. W. ...	D. A. A. General.
Lt.-Colonel, C.B....	Gartside-Tipping R.F. ...	S. C.
Maj.-Genl., G.C.I.E., K.C.B.	Gaselee, Sir A. ...	Comdg. Quetta Dist.
Maj.-Genl., K.C.B., D.S.O.	Gatacre, Sir W. F. ...	Comdg. Eastern Dist. [England.
Captain ...	Gaussen, A. W. D. ...	H. Lt. Infantry.
Lt.-Colonel ...	Gibbs, M. I. ...	S. C.
Lieutenant ...	Gibson, B. T. ...	2nd Punjab Vol. Rifles.
Captain ...	Gilbert, G. E. L. ...	34th Punjab Pioneers.
Major ...	Giles, A. ...	13th Rajput Infantry.
Major ...	Girard, H. E. ...	1st Bn. Calcutta Vol. [Rifles.
Captain ...	Glasfurd, A. I. R. ...	4th Infantry, H. C.
Captain ...	Glasgow, W. J. T. ...	R. West Surrey Regt.
Colonel ...	Goad, H. ...	Dir. Army Remount [Department.
Major ...	Godfrey, S. H. ...	S. C.
Lieutenant ...	Godwin, C. A. C. ...	3rd Punjab Cavalry.
Captain, C.I.E. ...	Goodridge, W. S. ...	R.N., Dir., R. I. Marine.
Colonel, C.I.E. ...	Gordon, J. C. F. ...	S. Corps.
Captain ...	Gordon, J. L. R. ...	15th Sikhs.

ORDINARY MEMBERS —Contd.

Rank.		Name.		Corps, &c.
Colonel	...	Gordon, R.	...	S. Corps.
Lt.-Colonel	...	Gordon, S. D.	...	13th Bengal Lancers.
Captain, v.c.	...	Gordon, W. E.	...	Gordon Highlanders.
Lt.-Colonel, c.B.	...	Gore, St. J. C.	...	5th Dragoon Guards.
Lt.-Colonel	...	Gott, G. A.	...	7th Bombay Lancers.
Major	...	Gough, S. C.	...	4th Bengal Lancers.
Major, D. S. O.	...	Graham, H. W. G.	...	5th Lancers.
Captain	...	Graham, M. D.	...	Northamptonshire Regt.
Lt.-Colonel	...	Grant, C.	...	D. A. A. Genl., Br.- Army Schools.
Colonel	...	Grant, H. G.	...	Scaforth Highlanders.
Maj.-Genl., c.B.	...	Grant, H. F.	...	I. G. Cavalry, England.
Colonel	...	Grant, Jas.	...	S. C.
Colonel	...	Grant, S.	...	R. E.
Lt.-Colonel	...	Grant, S. G.	...	Scottish Rifles.
Lieutenant	...	Grant, W. O.	...	27th Baluch Infantry.
Captain	...	Grant-Duff, A.	...	Royal Highlanders.
Colonel, c.B.	...	Graves, B. C.	...	S. C.
Colonel	...	Gray, W. du G.	...	1st Punjab Infantry.
Br.-General	...	Greenfield, R. M.	...	D. A. General.
Major	...	Greenhill-Gardyne, A. D.	...	Gordon Highlanders.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Lt.-Colonel ...	Grey, A. ...	Punjab Light Horse.
Captain ...	Grey, W. G. ...	23rd Madras Infantry.
Esquire, C.I.E. ...	Griesbach, C. L. ...	Dir., Geological Survey of India.
Captain ...	Grimshaw, E. W. ...	24th Madras Infantry.
Major ...	Grimston, R. E. ...	6th Bengal Cavalry.
Colonel, C.B. ...	Gwatkin, F. S. ...	Comdg. at Sialkot.
Lieutenant ...	Hadow, A. L. ...	Norfolk Regt.
Colonel ...	Haggard, C. ...	Late Royal Irish Rifles.
Colonel ...	Hailes, W. ...	S. C.
Captain ...	Hall, R. M. ...	13th Bengal Lancers.
Lieutenant ...	Hallett, R. L. H. ...	18th Bengal Infantry.
Lieutenant ...	Hamer, M. A. ...	29th Baluch Infantry.
Captain ...	Hamilton, A. S. ...	4th Sikhs.
Major ...	Hamilton, C. ...	2nd Rajput Infantry.
Lt.-Genl., K.C.B., ... D.S.O.	Hamilton, Sir Ian S. M.	Mily. Secy., W. Office.
Major, D.S.O. ...	Hamilton, W. G. ...	Norfolk Regt.
Col., V.C., K.C.B., D.S.O.	Hammond, Sir A. G. ...	S. Corps.
Colonel, C.B., A.D.C.	Harley, G. E. ...	A. A. General.
Br.-General ...	Harman, C. E. ...	Late Connaught Rangers

ORDINARY MEMBERS---Contd.

Rank.		Name.		Corps, &c.
Esquire	...	Harington, H. S.	...	Chief Engr. K.-S. Raily.
Lt.-Colonel	...	Harris, A. P. D.	...	5th Bengal Infantry.
Lt.-Colonel	...	Harris, C. W.	...	2nd Rajput Infantry.
Captain	...	Harrison, T. A.	...	Asst. Secy., Mily. Dept.
Colonel	...	Hart, H. H.	...	R. E.
Captain	...	Harvest, H. de V.	...	15th Madras Infantry.
Major	...	Harvey, J. E.	...	R. A.
Lt.-Colonel	...	Haughton, T. H.	...	20th Madras Infantry
Colonel	...	Hawkes, H. M. P.	...	I. Genl., S. & Transport
Captain	...	Hawkes, R.	...	1st Brahman Infantry.
Lt.-Colonel	...	Hawkins, F.	...	1st Brahman Infantry.
Lieutenant	...	Hawkins, W.	...	1st P. Vol. Rifles.
Major, D.S.O.	...	Hayden, F. A.	...	West Riding Regiment
Lt.-Colonel	...	Hayes, C. H.	...	1st Bengal Lancers.
Major	...	Hayes, R. H.	...	Middlesex Regiment.
Captain	...	Head, G.	...	1st Norfolk Regiment.
Major, v.D.	...	Heaven, F. G.	...	Madras Railway Vols.
Captain	...	Heffernan, H. W.	...	19th Madras Infantry.
Lt.-Colonel	...	Hegan, E.	...	Late 5th D. Guards.
Major	...	Hendley, H.	...	I. M. S.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Major, D.S.O. ...	Henegan, J. ...	10th Gurkha Rifles.
Maj.-General ...	Henry, G. ...	Q. M. Genl. in India.
Lt.-Colonel ...	Herbert, C. ...	S. C.
Colonel ...	Herbert, L. ...	C. I. Horse.
Colonel ...	Hervey, H. de la M. ...	S. C.
Lt.-Colonel ...	Hewitt, A. L. ...	Comdg. Moulmein V. Rifles.
Maj.-Genl., C.B. ...	Hill, W. ...	I. G. of Vols. in India.
Lieutenant ...	Hill, W. L. B. ...	Gloucestershire Regt.
Lieutenant ...	Hilson, R. J. ...	31st Burma Infantry
Captain ...	Hislop, A. F. ...	5th Bombay Cavalry.
Maj.-Genl. C.B. ...	Hobday, T. F. ...	S. C.
Captain ...	Hobson, J. A. ...	R. H. A.
Lieutenant ...	Hodgson, F. F. ...	24th Madras Infantry
Esquire ...	Hodson, C. W. ...	Dy. Secy., P. W. D.
Maj.-Genl., C.B. ...	Hogg, G. C. ...	S. Corps.
Colonel ...	Hogge, C. ...	S. C.
Major ...	Hoghton, F. A. ...	14th Madras Infantry.
Captain ...	Holbrook, E. R. St. G. ...	West Yorkshire Regt.
Major ...	Holland, H. F. ...	22nd Punjab Infantry.
Major ...	Holloway, B. ...	2nd Madras Lancers.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Major ...	Holloway, E. L. ...	4th Madras Pioneers.
Captain, D.S.O. ...	Holman H. C. ...	16th Bengal Lancers.
Captain ...	Home, J. M. ...	2-2nd Gurkha Rifles.
Major ...	Houison-Craufurd, J. A. ...	7th Bombay Pioneers.
Captain ...	Howell, E. A. R. ...	S. & Transport Officer.
Lieutenant ...	Howell, P. ...	Corps of Guides.
Colonel ...	Howlett, A. ...	S. C.
Captain ...	Hudson, A.K. ...	17th Bengal Lancers.
Major ...	Hudson, T. R. C. ...	R. A.
Lt.-Colonel, D.S.O. ...	Huggins, P. G. ...	21st Madras Pioneers.
Lieutenant ...	Hughes, C. C. A. A. ...	14th Bengal Lancers.
Major ...	Hughes, F. T. C. ...	Erinpura Irregular Force
Major, D.S.O. ...	Hume, C. V. ...	R. A.
Lt.-Colonel ...	Humphery, S. ...	Gloucestershire Regt.
Captain ...	Hunter, C. G. W. ...	R. E.
Lt.-Colonel ...	Hutchins, H. L. ...	Dy. Ins. G., S. & Trans.
Captain ...	Hutchinson, C. A. R. ...	41st Dogra Infantry.
Lieutenant ...	Hutchinson, C. G. ...	33rd Burma Infantry.
Colonel, C.S.I. ...	Hutchinson, H. D. ...	Asst. Mily. Secy., W. Office.
Major ...	Ievers, O. G. ...	Cant. Magistrate.

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps, &c.
Major	...	Iggulden, H. A.	...	2nd Derby. Regt.
Lieutenant	...	Hes, F. W.	...	10th Jat Infantry.
Lt.-Colonel	...	Iremonger, R. G.	...	33rd Burma Infantry.
Esquire, c.s.i.	...	Irwin, G. R.	...	C. S.
Major	...	Ivatt, G. A.	...	Lincolnshire Regt.
Lt.-Colonel	...	Jackson, J.	...	16th Madras Infantry.
Major	...	Jacob, C. W.	...	26th Baluch Infantry.
Captain	...	Jacob, H. F.	...	S. C.
Captain	...	James, W. B.	...	2nd Bengal Lancers.
Major	...	Jellett, J. H.	...	R. A.
Captain	...	Jennings-Bramley, H.	...	Royal Highlanders.
Lt.-Genl., c.B.	...	Jennings, R. M.	...	S. C.
Lt.-Colonel	...	Jermyn, T.	...	14th Madras Infantry.
Captain	...	Jerram, H.	...	Retired.
Major, D.S.O.	...	Johnson, F. E.	...	R. A.
Major	...	Johnstone, A. A. J.	...	5th Punjab Infantry.
Major	...	Johnstone, B. A.	...	1st Madras Pioneers.
Major, D.S.O.	...	Jones, H. J.	...	14th Sikhs.
Captain	...	Jordan, R. P.	...	Gloucestershire Regt.
Lt.-Colonel	...	Justice, C. Le G.	...	48th Bengal Pioneers.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Lt.-Colonel, D.S.O.	Keary, H. D'U.	... 31st Burma Infantry.
Major ...	Keate, C. R.	... 31st Burma Infantry.
Lt.-Colonel, D.S.O.	Keene, A.	... R. A.
Captain ...	Kecne, C. W.	... 27th Punjab Infantry.
Colonel ...	Keir, J. L.	... R. A.
Maj.-Genl., C.B. ...	Kekewich, R. G.	... Late N. Lancashire Regt.
Col., C.B. ...	Kelly, J. G.	... S. C.
Br.-Genl., D.S.O. ...	Kemball, G. V.	... I. Genl., W. African [Frontr. Force.
Captain ...	Kennedy, W. M.	... Dy. Commissioner.
Captain ...	Kennion, R. L.	... Asst. Political Agent.
Major ...	Kenny, H. T.	... Asst. Secy., M. Dept.
Captain, D.S.O. ...	Kenrick, G. E. R.	... Royal W. Surrey Regt.
Lieutenant ...	Kensington, E. C.	... 21st Bombay Infantry.
Major ...	King, A. B.	... Royal Irish Regt.
Esquire ...	Kirk, H. A.	... Telegraph Dept.
Major, D.S.O. ...	Kirkpatrick, W.	... 1st Punjab Infantry.
Maj.-Genl., C.B. ...	Kitchener, F. W.	... Comdg. Oudh Dist.
Captain ...	Knapp, K. K.	... R. A.
Captain ...	Knox, A. W. F.	... 5th Punjab Infantry.
Major ...	Kreyer, F. A. C.	... 16th Bombay Infantry.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Captain ...	Laing, F. C. ...	12th Bengal Infantry.
Lieutenant ...	Lance, F. F. H. ...	19th Bengal Lancers.
Major ...	Langley, J. P. ...	R. A.
Captain ...	Lash, A. O. ...	13th Bombay Infantry.
Captain ...	Lathbury, H. O. ...	R. E.
The Hon'ble, K.C.M.G. C.S.I.	Law, Sir E. F. ...	Member of Viceregal Council.
K.C.I.E. ...	Lawrence, Sir W. R. ...	Pte. Secy. to H. E. the Viceroy.
Captain ...	Lawson, O. H. ...	26th Punjab Infantry.
Br.-Genl., C.B., D.S.O.	Leach, H. P. ...	Comdg. Presidency Dist.
Colonel ...	Leckie, F. W. V. ...	S. C.
Captain ...	Lee, J. F. ...	1st Punjab Vol. Rifles.
Esquire ...	Lees, O. C. ...	P. W. Dept.
Col., Bart., C.B. ...	Leslie, Sir C. H. ...	S. Corps.
Major ...	Ley, W. G. ...	1st N. Staffordshire Regt
Lieutenant ...	Leyborne-Popham, E. ...	1st Madras Lancers.
Lt.-Colonel ...	Light, R. H. ...	17th Bombay Infantry.
Captain ...	Lightfoot, T. W. ...	8th Rajput Infantry.
Captain ...	Lillingston, W. E. G. ...	2nd Lancers, H. C.
Major ...	Lindesay, E. ...	Late Royal Irish Regt.
Captain ...	Lindsay, H. A. P. ...	S. & Transport Officer.

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps, &c.
Major	...	Little, C. B.	...	Somersetshire L. I.
Captain	...	Loch, G. G.	...	Royal Scots.
Major	...	Loch, H. F.	...	D. A. A. General.
Colonel	...	Lomax, S. H.	...	Late Scottish Rifles.
Lt.-Colonel	...	Long, S. S.	...	Army Service Corps.
Esquire, C.I.E.	...	Lorimer, J. G.	...	C. S.
Major	...	Loudon, J. A.	...	13th Madras Infantry.
Maj.-Genl., C.B., C.S.I.		Lovett, B.	...	late R. E.
General, G.C.B.	...	Low, Sir R. C.	...	Comdg. the Forces, [Bombay.]
Captain	...	Lewis, P. S.	...	R. A.
Captain, M.B.	...	Luard, H. B.	...	I. M. S
Captain	...	Lubbock, G.	...	R. E.
Major, D.S.O.	...	Lucas, F. G.	...	2-5th Gurkha Rifles.
Captain	...	Luck, C. A.	...	2nd Punjab Cavalry.
Lt.-Genl., K.C.B.	...	Luck, Sir G.	...	S. C.
Colonel	...	Lugard, H. T.	...	R. A.
Lt.-Colonel	...	Lumaden, H. R. W.	...	3rd Brahman Infantry.
Captain	...	Lyne, C. V. N.	...	16th Madras Infantry.
Captain	...	Lyon, J. W. H.	...	2nd Bn. Moplah Rifles.
Major	...	Lyster, A. W.	...	S. Corps.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Lt.-Colonel, M.D....	McCartie, C. J. ...	I. M. S.
Major ...	McConaghey, H. ...	Royal Irish Fus.
Major ...	McDermott, J. ...	2nd P. V. Rifles.
Captain ...	McNeile, D. H. ...	19th Bengal Lancers
Lt.-Colonel, D.S.O.	McSwiney, E. F. H. ...	1st Lancers, H. C.
Captain, D.S.O. ...	McVean, D. A. D. ...	45th Sikhs.
Captain ...	Macalpine-Leny, R. L. ...	16th Lancers.
Captain, D.S.O. ...	Macandrew, H. J. M. ...	5th Bengal Cavalry.
Lieutenant ...	Macaulay, D. I. M. ...	1st Bengal Lancers.
Colonel, C.B. ...	Macdonald, J. R. L. ...	R. E.
The Hon'ble, G.C.S.I.	MacDonnell, Sir A. P. ...	C. S.
Captain ...	MacGeorge, H. K. ...	14th Bombay Infantry.
Lt.-Colonel, C.B. ...	Mackenzie, C. J. ...	Seaforth Highs.
Lt.-Colonel ...	Mackenzie-Kennedy, ... E. C. W.	1st Madras Pioneers.
Captain ...	MacLachlan, T. R. ...	40th Punjab Infantry.
Major ...	MacLagan, R. S. ...	R. E.
Captain ...	Maclean, A. H. ...	A. and S. Highlanders.
Major, D.S.O. ...	MacMunn, G. F. ...	R. A.
Major, D.S.O. ...	Maconchy, E.W.S.K. ...	D. A. Q. M. Genl., I.B.
Captain, D.S.O. ...	Macquoid, C. E. E. F. K.	1st Lancers, H. C.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Lt.-Colonel ...	Macready, C. F. N. ...	Gordon Highlanders.
Lieutenant ...	Mactavish, A. ...	3rd Brahman Infantry.
Captain ...	Madden, T. E. ...	17th Bengal Infantry.
Lt.-Colonel ...	Mahon, R. H. ...	R. A.
Lt.-Colonel ...	Maisey, F. C. ...	S. C.
Br.-General, C.B. ...	Maitland, P. J. ...	Comdg. Aden Dist.
Captain ...	Major, F. F. ...	1st Infantry, H. C.
Lieutenant ...	Malan, L. N. ...	R. E.
Captain ...	Maneal, H. A. ...	Dorsetshire Regt.
Colonel ...	Mansfield, H. ...	Dy. Dir. Genl. for Trans.
Major ...	Mardall, W. S. ...	17th Bengal Lancers.
Captain ...	Marden, T. O. ...	Cheshire Regt.
Captain ...	Marindin, A. H. ...	1st Royal Highlanders.
Major ...	Marriott, E. F. ...	S Corps.
Major-General ...	Marsh, F. H. B. ...	S. C.
Maj.-Genl., C.B. ...	Marshall, G. F. L. ...	Late R. E.
Captain ...	Marshall, T. E. ...	R. A.
Br.-General, C.B. ..	Martin, A. R. ...	D. A. General.
Lt.-Colonel ...	Martin, M. ...	R. E.
Major ...	Massie, R. H. ...	R. A.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Lt.-Col., C.I.E., V.D.	Masson, D. P. ...	1st P. V. Rifles.
Major ...	Massy, G. ...	Norfolk Regiment.
Lt.-Colonel ...	Massy, H. S. ...	19th Bengal Lancers.
Colonel ...	Masters, A. ...	A. Q. M. General.
Major ...	Maurice, F. B. ...	Derbyshire Regiment.
Lieutenant ...	Maxwell, D. W. ...	1-4th Gurkha Rifles.
Lt.-Colonel ...	Maxwell, G. W. ...	7th Madras Infantry.
Captain ...	Maxwell, H. G. ...	16th Bengal Lancers.
Major ...	Maxwell, N. ...	R. A.
Lt.-Colonel ...	Mayhew, H. S. ...	Border Regiment.
Colonel, C.B., A.D.C.	Mayne, R. C. G. ...	30th Baluch Infantry.
Lt.-Colonel ...	Meade, J. W. B. ...	S. C.
Lt.-Colonel, C.I.E.	Meade, M. J. ...	Political Agent.
Captain ...	Mears, A. ...	S. Corps.
Captain ...	Mears, C. D. ...	8th Bengal Lancers.
Major ...	Medley, A. G. ...	D. A. A. General.
Major ...	Medley, E. J. ...	17th Bengal Lancers.
Major-Genl., K.C.B., C.M.G.	Meiklejohn, Sir W. H. ...	Comdg. Derajat Dist.
Lieutenant ...	Melliss, F. G. ...	13th Bombay Infantry.
Colonel, K.C.S.I. ...	Melliss, Sir H. ...	S. C.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Major, M.B. ...	Melville, C. H. ...	R. A. M. Corps.
Major ...	Melville, J. S. ...	4th Rajput Infantry.
Major ...	Mercer, W. H. W. ...	26th Madras Infantry.
Esquire ...	Meredith, A. ...	Deputy Commissioner.
Captain ...	Miles, P. J. ...	4th Punjab Infantry.
Colonel, C.S.I. ...	Miley, J. A. ...	S. C.
Captain ...	Milne, J. W. ...	22nd Madras Infantry.
Major, D.S.O. ...	Moberley, F. J. ...	37th Dogra Infantry.
Major ..	Mockler, G. H. G. ...	30th Burma Infantry.
Lieutenant ...	Moens, A. W. H. M. ...	2nd Sikhs.
Major ...	Molesworth, H. C. ...	R. A.
Captain, D.S.O. ...	Molyneux, E. M. J. ...	12th Bengal Cavalry.
Colonel ...	Monck-Mason, G. G. ...	R. A.
Lt.-Colonel ...	Money, A. W. ...	R. A.
Colonel ...	Money, E. A. ...	S. Corps.
Colonel ...	Money, G. A. ...	18th Bengal Lancers.
Colonel ...	Money, G. E. ...	S. C.
Captain ...	Money-Shewan, R. E. ...	R. E.
Captain ...	Monreal, G. ...	Wiltshire Regiment.
Lt.-Colonel ...	Montgomery, C. A. S. ...	8th Bombay Infantry.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Lt.-Colonel, C.S.I...	Montgomery, J. A. L. ...	S. C.
Lt.-Colonel ...	Moore, G. H. J. ...	Bhopal Battalion.
Br.-Genl., C.B., D.S.O.	More-Molyneux, G. H....	Comdg. Robilkhand Dist.
Captain ...	Morgan, A. H. ...	U. Burma Vol. Rifles.
Captain ...	Morris, R. L. ...	3rd Bengal Cavalry.
Lt.-Colonel ...	Morris, W. A. ...	R. A. M. C.
Lt.-Colonel ...	Morrison, R. H. ...	Late 18th Hussars.
Captain ...	Morton, E. R. ...	47th Sikhs.
Captain ...	Moulton-Barrett, H.P....	A. & S. Highs.
Lieutenant ...	Muir, W. W. ...	15th Sikhs.
Lt.-Colonel ...	Mullaly, H. ...	R. E.
Major ...	Mullins, W. B. ...	27th Punjab Infantry.
Br.-Genl., K.C.B. ...	Murray, Sir J. W. ...	Comdg. Bangalore Dist.
Major ...	Muspratt-Williams, C. A.	R. A.
Major ...	Nairne, E. S. ...	R. A.
Captain ...	Nangle, K. E. ...	3rd Infantry, H. C.
Maj. the Hon'ble	Napier, H. D. ...	C. I. Horse.
Captain ...	Napier, G. S. F. ...	Late Oxford Light Infy.
Lt.-Colonel ...	Napier-Clavering, C. W....	Somer. Lt. Infantry.
Lt.-Colonel ...	Nedham, E. M. ...	Cant. Magistrate.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Captain ...	Nethersole, A. R. ...	5th Madras Infantry.
Captain ...	Nethersole, F. R. ...	Assistant Commissioner.
Br.-General ...	Neville, J. P. C. ...	D. A. General.
Lt.-Colonel ...	Newell, W. J. ...	8th Rajput Infantry.
Lt.-Colonel ...	Newill, J. H. ...	S. C.
General ...	Nicholl, T. ...	R. A.
Major ...	Nicholls, A. ...	2nd Punjab Infantry.
Captain ...	Nicholson, C. L. ...	Yorkshire Regiment.
Lt.-Genl., c. B. ...	Nicolson, M. H. ...	S. C.
Captain ...	Nisbet, F. C. ...	Gloucestershire Regt.
Major ...	Noblett, L. H. ...	Royal Irish Rifles.
Major, D.S.O. ...	Norie, C. E. de M. ...	1-2nd Gurkha Rifles.
Captain ...	Norman, H. H. ...	Northamptonshire Regt.
Major ...	Norman, W. W. ...	2nd Punjab Cavalry.
Major ...	Norris, E. E. ...	R. A.
H. E. the Right Hon'ble, G.C.I.E., G.B.	Northcote, H. S., Lord ...	Governor of Bombay.
Captain ...	Nuttall, J. R. ...	44th Gurkha Rifles.
Captain ...	O'Connor, W. F. T. ...	R. A.
Lt.-Colonel ...	O'Donnell, G. B. ...	S. C.
Lt.-Colonel ...	O'Donoghue, M. E. ...	15th Madras Infantry.

ORDINARY MEMBERS.—Contd.

Rank.		Name.		Corps, &c.
Esquire	...	O'Dwyer, M. F.	...	C. S.
Lt.-Colonel	...	O'Leary, T. E.	..	Royal Irish Fusiliers.
Lt.-Colonel	...	O'Neill, W. H.	...	R. A.
Colonel	...	O'Sullivan, G. H. W.	...	R. E.
Captain	...	Ogg, G. S.	...	R. A.
Major	...	Oldfield, C. G.	...	R. A.
Major	...	Ommanney, G. S.	...	2-1st Gurkha Rifles.
Esqr.	...	Orange, H. W.	...	Dir. Genl, of Edu. in India.
Major	...	Ormerod, G. S.	...	2nd Royal Muns. Fus.
Colonel, C. I. E.	...	Ottley, J. W.	...	R. E.
Lt.-Col., C. B.	...	Ovens, G. H.	...	Border Regt.
Lt.-Colonel	...	Owen, R.	...	Late 21st Hussars.
Colonel	...	Paley, E. G.	...	Late 18th Hussars.
Genl., G C.I.E., K.C.B.		Palmer, Sir A. P.	...	S. C.
Major	...	Palmer, H. I. E.	.	5th Punjab Cavalry.
Captain	...	Parker, N. T.	...	6th Jat Infantry.
Lt.-Colonel	...	Parkinson, J. R.	...	Hampshire Regiment
Major	...	Parsons, C. G.	...	S C.
Esquire, C. I. E.	...	Patterson, A. B.	...	C. S.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Lt.-Colonel ...	Patterson, G. ...	Wyde Bay Mounted Infantry, Queensland Defence Forces.
Major ...	Patterson, H. McN ...	5th Bengal Cavalry,
Colonel, D.S.O. ...	Payne, R. L. ...	Royal Inns. Fus.
Major ...	Peach, E. ...	3rd Madras Infantry.
Captain ...	Peacock, E. B. ...	31st Punjab Infantry.
Esquire ...	Peacock, E. B. ...	C. Service.
Colonel, C.M.G. ...	Peacocke, W. ...	R. E.
Lieutenant ...	Peart, C. L. ...	4th Sikhs.
Captain ...	Pemberton, W. A. ...	Naini Tal V. Rifles.
Br.-General ...	Penton, H. E. ...	Comdg. Nagpore Dist.
Captain, D.S.O. ...	Perkins, J. C. C. ...	Mily. Accts. Dept.
Major, C.M.G. ...	Peyton, W. J. ...	7th Bombay Lancers.
Major, D.S.O. ...	Philipps, I. ...	1-5th Gurkha Rifles.
Lt.-Colonel ...	Phillipps, C. R. ...	19th Bombay Infantry.
Captain ...	Phillips, R. S. ...	2nd Sikh Infantry.
Lt.-Colonel ...	Phillips, W. E. ...	28th Punjab Infantry.
Captain ...	Pickard, F.B. B. ...	1st Royal W. S. Regt.
Major ...	Pickard-Cambridge, E.D. ...	Bedfordshire Regt.
Captain ...	Pierce, F. G. ...	9th Madras Infantry.

ORDINARY MEMBERS—Contd.

Rank.		Name.		Corps, &c.
Lt.-Colonel	...	Piers, W. B.	...	3rd Bombay Infantry.
Captain	...	Pigou, F. H.	...	1st Infantry, H. C.
Major	...	Pinney, R. J.	...	Royal Fusiliers.
Major	...	Pirie, C. P. W.	...	15th Bengal Lancers.
Lieut.	...	Pitcher, D. Le G.	...	Central India Horse.
Captain	...	Playfair, A.	...	Asst. Commissioner.
Captain	...	Playfair, F. H. G.	...	D. A. A. Genl., Musky.
Br.-General	...	Plowden, F. H.	...	Comdg. Belgaum Dist.
Lt.-Colonel	...	Pollard, W. C.	...	15th Bengal Lancers.
Lt.-Colonel	...	Pollock, F. G.	...	S. C.
Major	...	Polwhele, A. C.	...	Agra Vol. Rifles.
Colonel	...	Porter, A. R.	...	A. A. General.
Lt.-Colonel	...	Porter, H. E.	...	S. C.
Esquire	...	Potter, C. D.	...	Late Survey Dept
Major	...	Pott, F.	...	R. A.
Major	...	Powell, A. L.	...	19th Hussars.
Major	...	Powell, S. H.	...	R. E.
Captain	...	Powell, W. B.	...	8th Gurkha Rifles.
Captain	...	Prentis, W. S.	...	29th Burma Infantry.
Major	...	Pressey, A.	...	4th Rajput Infantry.

ORDINARY MEMBERS—Contd.

Rank.	Name.	Corps, &c.
Lt.-Colonel, D.S.O.	Preston, J. E. ...	S. Corps.
Esquire, C.I.E. ...	Preston, S. ...	Dy. Secy., P. W. Dept.
Lt.-Colonel ...	Prichard, G.P.M. ...	S. Corps.
Colonel ...	Prickett, T. ...	H. P.
Lt.-Colonel, V.D. ...	Priestley, N. G. ...	2nd Punjab Vol. Rifles.
Lt.-Colonel ...	Pringle, A. ...	S. Corps.
Lieutenant ...	Prissick, C. ...	2nd Sikhs.
Lieutenant ...	Pryce, H. E. ap R. ...	18th Bengal Infantry
Colonel ...	Pulley, C. ...	S. C.
Lt.-Colonel ...	Quentin, W. ...	4th Bombay Rifles.
Major ...	Radcliff, S. G. ...	33rd Burma Infantry
Lt.-Colonel ...	Radcliffe, A. W. T. ...	S. C.
Lieutenant ...	Radice, A. H. ...	Gloucestershire Regt.
Lt.-Colonel ...	Rainey-Robinson, R. M. ...	2nd Madras Infantry.
Lt.-Colonel, C.B. ...	Ramsay, J. G. ...	24th Punjab Infantry.
Lt.-Colonel ...	Ramsden, H. F. S. ...	Mily. Accounts Dept.
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Colonel ...	Ranking, W. L. ...	S. C.
Major ...	Rawlins, G. W. ...	12th Bengal Cavalry.
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Lt.Colonel ...	Read, H. ...	4th Rajput Infantry.
Captain ...	Redmond, W. J. H. ...	Rangoon Vol Rifles.
Br.-Genl., K.C.B. ...	Reid, Sir, A. J. F. ...	Comdg. Assam Dist.
Esquire ...	Rendell, T. H. ...	Survey Department.
Captain ...	Rennick, F. ...	40th Punjab Infantry.
Major ..	Reynolds, T. G. C. ...	2nd Royal Innls. Fus.
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Captain ...	Rickards, E. ...	4th Dragoon Guards.
Captain ...	Ricketts, L. H. ...	2nd Madras Infantry.
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Lt.-Colonel ...	Rippon, G. ..	29th Burma Infantry.
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Captain ...	Robertson, P. R. ...	1st Scottish Rifles.
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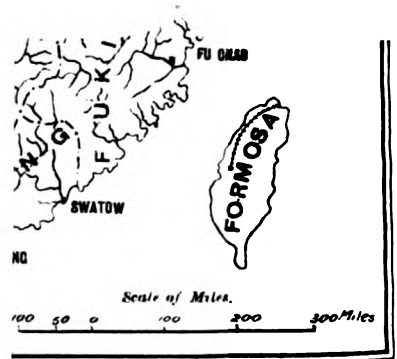
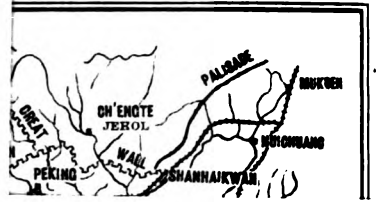
ERRATA.

For February Journal.

On page 21 of Journal for February 1893, eleventh line, read $13 \times 2 = 26$, for 13×26 . On page 28 of the same Journal, twenty-third and twenty-eighth lines, read 5 per cent, for 5 per cent.

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The Upper Yangtse valley and its approaches is the subject on which I wished to speak this afternoon, as it is a part of China of particular interest to the British nation and perhaps especially to us in India. Yet, as in the journey on which Captain Hunter and I started last year, we travelled from Peking for many hundreds of miles through Northern and Central China, before we arrived at what might be legitimately termed the direct approaches to the upper Yangtse valley, I think it may be of interest to take you briefly through this earlier part of our journey, as the study of the condition of affairs in Northern China at that time was one of the greatest interest.

The payment of the indemnity by the Chinese and the evacuation of Peking by the allied forces had only been agreed upon in the preceding fortnight, and the final return of the Dowager Empress and the Court to Peking was considered to be very doubtful; it was thought that, even if she left Hsian-fu where she had taken refuge, she probably would not come further than Kaifeng-fu, another ancient capital. As our route lay directly to this latter place, and through a part of southern Chih-li which had been the centre of the Boxer movement, we were able to learn what effect the occupation of Peking by the Foreigners had had upon the people of these adjoining regions into which the Allied Forces had not entered.

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others, in which a foreigner could travel with greater safety than had ever been the case before, and under such advantageous circumstances for gaining useful geographical knowledge of little known parts of China, as might perhaps never be afforded again for years to come.

Thanks to the support of the project by the British Military authorities in China and to the interest taken in it by His Excellency the British Minister, Sir E. Satow, who, as well as affording his support, gave us always the greatest encouragement, we were enabled to start directly the peace negotiations were concluded.

In describing our journey from Peking I will try and avoid too much detail and dwell only on those points of general interest which we came upon in the course of our travels including those which touch particularly on some of the great problems which have made China take such a foremost place in the world's interest of recent years, and will cause it to become of still greater prominence in the future.

Captain Hunter and I started from Peking on the 20th of September of last year. We formed at the outset one combined party but composed of two complete units for the purposes of work and travel, so that after we had sounded the temper of the Mandarins and of the people in the parts of the country adjoining those which had been occupied by the Allied Forces, and found that we could with safety divide into two small parties we might be in a position to do so, and thus be able to cover twice the amount of ground in the time at our disposal.

When separated, we were each accompanied by a trained Roorkee surveyor, an interpreter, three Gurkhas, one native of India as mule driver, and one native of India as a cook, and ten mules with all necessary instruments for geographical exploration.

As far as possible we wished to be independent of Chinese servants or transport; for we were afraid that the Chinese might be easily intimidated by their own countrymen, should the latter in any disturbed districts prove troublesome in any way to us.

As interpreter, for this reason also, we took a European, A Mr. Harris who had been nearly all his life in China and had a very intimate knowledge of the Chinese language and of the customs and etiquette of the officials.

During the occupation of Peking he had been interpreter to Major George Barrow, who was Commissioner for the Chinese city of Peking, and previously to that he had been employed under Mr. Kinder on the Railway.

Our other interpreter was a Cantonese called Tang, who being a Southern man was in case of trouble much more reliable than a Pekinese would have been as in a disturbance his life would not have been worth a moment's purchase amongst the Northern Chinese who hate the Cantonese, and at the time of the Boxer movement all of the latter found in the North met with as short shrift as a foreigner.

Harris had also brought a Chinese writer, a man of great intelligence, who made friends with all classes of his countrymen and proved invaluable in getting reliable intelligence for us. He had lived with Harris for years and the latter was very attached to him, and thought an immense amount of him with very good reason.

Our objective was the upper Yangtse in S'suCh'uan, where both of us had been before, Captain Hunter having travelled there for the Yunan company in 1899, going up the Yangtse, and spending five months there, and I had gone in from Burma in 1900, met Major Davies and Captain Ryder on the Tibetan border and then went to Peking.

There was so much of geographical interest in Central China that instead of taking a direct line for S'suCh'uan, our idea was to first spend some months in exploring those regions of Central China of which up to date little is known, and of which there are no accurate maps. The Court also was still at Hsian-fu but its movements were quite uncertain, and as we would be travelling for the first few hundred miles along their probable line of march, we hoped to get definite news of them. From Peking we travelled by the Lu Han railway as far as Paoting-fu, this latter was the place on which a mixed force of the Allies under the supreme command of General Sir Alfred Gaselee marched after the occupation of Peking. At that time there was no alternative to route marching, as the Boxers had pulled up the line, destroying all the bridges; but the French force during their occupation of the region adjoining the railway had supervised its reconstruction and we travelled over it very comfortably for 100 miles to Paoting-fu, and trains were actually running 30 miles further. We made this city our starting place for our march across the great plain to Kaifeng fu on the Yellow river.

The French Force, on the signing of the peace conditions a fortnight before, had, after an occupation lasting exactly one year, evacuated this place, and the only European we found here, except three or four French railway employés, was a Mr. Lowrie, a missionary who had been interpreter to the allies.

He told us that the most preposterous ideas were current amongst the Chinese as to the evacuation by the French; it was generally said that the Chinese General Ma who had distinguished himself in the Tonkinese campaign had compelled them to quit Paoting-fu and had given them 10 days to evacuate the city and district, and it was said the allies had been compelled to pay 200,000 Taels to rebuild the temples, which as being the centres for Boxer societies to meet in, had during the occupation been blown up.

The next day there would be an equally strong rumour that the foreign troops were returning and our coming had caused great excitement as we were supposed to be an advanced guard of a British force of occupation and had come to arrange for quarters.

One force succeeding on another in the occupation of a place was what hit the Chinese harder than anything else in the occupation of the Provinces of Chil-hi by the allies, for under ordinary circumstances had these been only an army of one nationality any portion of it having occupied a place and pretty nearly exhausted its grain or fodder supplies, would not have returned; but German succeeded French, and Japanese, perhaps German, and Italian Japanese, until the wretched villager did not know where to turn to meet their wants, much less his own, which were usually the last to be considered by most of the allied Forces.

his plans in an arena in which he could not enter and his strenuous and patriotic efforts to make the line one under British control failed.

Harris, our interpreter, had previous to this been employed on this Peking-fu extension as one of the staff and it was interesting to hear the story direct from a man who had been connected with its earliest start.

Harris had spent a great part of his time amongst the mercantile community of Shanghai and I regret very much to say that when he joined us he had such a very poor idea of the way British commercial interests had been looked after in the Far East that, he used to avow with great sincerity that he was saving up his furlough to spend in the United States with the object of becoming a naturalized American citizen and I think he really thought he meant to. I am glad to say that at the end of five months' journeying, when he left us he had considerably modified his views.

This Pe Han line will take at least 6 or 7 years to complete to Hankow as though going through level country a good deal of bridging has to be done.

The Southern extension to Canton has no very difficult ground to go over, only one pass of 1,000 feet above the sea and this with most easy grading.

The concession for the Southern portion of this great North to South line was given to an American Syndicate, whose claims were supported by us, as we preferred seeing it in American hands to those of other nations. Some months ago a good deal of uneasiness was caused by the rumour that they had actually sold their rights to the French-Belgian interests which represented the Pe Han line, and Chung Chieh Tung, the well known Yangtse Viceroy, threatened to withdraw the concession altogether as far as the portion that went through territory under his control, unless the conditions, on which it was originally granted, were adhered to. The Americans have now started at both the Lunging Lake and the Canton ends, but about 40 per cent. of the shares are said to have passed into Belgian hands. Belgian strings are largely pulled for political purposes by France and Russia, and, as an apparently neutral nation, Belgium is a very good dummy to put forward for concessions.

The influence that the nations controlling this great high way will exercise over the hinter land on either side of it, if after its completion, any further great troubles break out again in China, may be realized by any one who observed what occurred the other day during the occupation of North China.

The forces of each nation concentrated in strength and particularly interested themselves in the region of the railways in which their capital was invested and in the hinter land essential to its development.

The Russians, as every one of course knows, occupied Manchuria and the line up to Niuchuang. The British insisted on controlling the Peking-Shanbakuwan line. The French occupied all the sphere in the neighbourhood of this Peking-Peking-fu line, and the Germans, simply because their time had not yet arrived to do so, did not occupy Shantung, but strengthened their position there, took care that none

interfered, at the same time keeping a sharp look-out on the territory suitable for an extension of a future line to Tientsin.

Though there has been a good deal of bickering yet it seems to have been more or less accepted from the force of circumstances that the sphere for each nation's action will specially be the regions in which the capital of that nation is invested in a railway line, so the great influence these lines may have in the future over immense areas of territory is well worth pondering over.

Another fact that was forcibly brought home to us in going along this line and which as a great manufacturing nation must hit us very hard, was that all the iron and metal work, rails, girders, bridging material which could not be supplied locally were all coming out from the continent, none of it was British. Rolling stock, the same. The Americans for their section were getting it all out from the United States. Had this line been under British control, some millions worth of material would in the next ten years have come out from England.

All this afforded a very instructive object lesson of what we lose in the way of trade and manufacture when any big undertaking like this is let pass entirely into trade rival's hands. Before leaving the subject of this railway it may be interesting to note that the Russians so appreciated the fact of Kinder's little engine, marking an era in the history of the Far East, that on borrowing most of the rolling stock of the line in the early part of the campaign, they took Kinder's little engine along with it : and sent it to occupy a place of honour in the Museum at St. Petersburg.

Our next large city to halt at was Chenting-fu about 50 miles further on beyond which place the railway does not go at present. Chenting-fu is a city of 60,000 people but like all these large cities of the North that we passed through, has seen its best days and is in a state of decay.

There is a very fine Buddhist monastery here but it has fallen greatly into disrepair. In former days it was under the direct patronage of the Emperors of various dynasties, and the famous Chien Lung, whose name connoisseurs of Chinese porcelain will recognize had slept here and latterly it had been the head-quarters of the French General.

There is a colossal figure of Buddha 80 feet high but the whole place is in ruins, and the roof has fallen off so that the head of the Buddha is appearing through the roof.

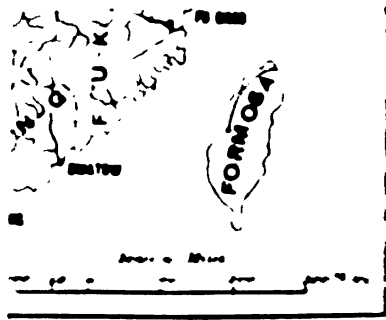
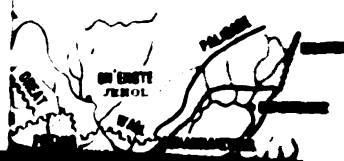
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The abbot received us and insisted on our putting up in the monastery.

As a rule Lama priests have faces betraying the grossest dullness and sensuality, but this old gentleman had fine intellectual features and a most courteous manner and we were told that he had been a great friend of the French General.

The decay of these monasteries is due to poverty; the Chinese, though called Buddhists, have very little respect for the Buddhist



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From Paoing-fu we followed the railway line to Chienting-fu where it at present terminates. This line formerly known as the Lu Han railway is a magnificent project. Its construction has been so recently started that perhaps little is known of it to the outside public, and perhaps less of the immense effect it may have on the political and commercial future of China; so it may be of interest to study it for a few minutes.

It is now called the Pe Han railway; this name is derived from the first character in the name of either of its termini—Peking and Hankow. Formerly it had not been permitted to come nearer than Lu-ku-Chiao a few miles out of Peking. Hankow, the other terminus, is at the junction of the Han river with the Yangtse and 600 miles from the mouth of the latter, is accessible to large ocean-going steamers and to first class cruisers.

To meet this Pe Han railway at Hankow a line is being constructed from Canton, and thus there will be an immense grand trunk line running right through the centre of China from Peking to Canton. It will tap the commerce of all the most magnificent waterways of China so that traffic will come to it from an area of thousands of square miles greater than the ordinary railway could expect to have as an area of collection or of distribution of goods.

These waterways are, as you will see on this map, the navigable affluents of the Grand Canal, the Yellow river, the Han river with its affluents, the Yangtse, the Tungting lake with its network of extensive rivers, the West river and its branches, all bringing down freights and distributing those brought up by rail.

Feeder lines will be thrown out opening up the rich mineral districts of Shansi said by the ablest geological experts to be the richest and best coal and iron districts in the world, and to be quite inexhaustible. Other feeder lines will connect with many of the 35 prefectural cities of the Great Plain and their populous districts, and large steamers will bring freight to and convey it from the railway 1,000 miles up the Yangtse and several hundred miles up the Han.

When one realizes that a railway with such prospects as this running through the centre of this populated rich country is actually under construction, nearly 250 miles from either end being completed, and that it is no mere ideal scheme, or paper concession, one begins to imagine that as well as an "awakening of China" having taken place, there must be an awakening of the European Capitalist and of European Enterprise, and one feels sure in one's pride of race, that British enterprise must be well to the fore in such a grand scheme, especially in one that goes from either end of China to the Yangtse valley, in which we have such great commercial interests.

I am sorry however to have to tell anyone here who does not know it already, that in not a single yard of this great line are there any British interests, or capital, and not a vestige of control, although the conception of this project and its inception were due to the genius and perseverance of an Englishman.

Mr. Kinder, the Englishman in question, who is now managing director of the Peking-Tientsin-Shanhai kwan lines, and who originally came out as engineer on the collieries at Tongshan, saw the great

advantages a railway line would present for running the coal from Tongshan to the port of Taku but when he proposed to construct one, the Chinese looked with horror upon any such Foreign devil innovation, and refused their consent.

However Mr. Kinder was not to be stopped and started what he called a Tramline, and as he could not get permission to buy a locomotive, made one himself in his own workshops.

The Chinese took to it very readily, but some geomantic influence was supposed to have been disturbed unfavorably, and on some agitation arising Li Hung Chang issued orders that the railway was to be abandoned. The lines were pulled up, and Mr. Kinder buried his locomotive in a pit, out of which he took it in a short time and started his line again, when things had settled down. The Chinese, who really were not averse to it, especially as the colliery had several influential mandarins on its board and the railway was making good money for them, when they saw Kinder was not to be put off, contented themselves with the process of "shuttee eye pidgin," and Kinder extended his line and bought rolling stock. Out of this start arose the idea of the Peking-Tientsin line, worked under the Chinese Government as a Chinese line but owned and run by British capital under British supervision and staff, with a head office in London. A great financial success and as things showed us the other day a great point for British interests in North China to centre on.

Kinder was not a man to stop here and he saw the possibilities of a great trunk line across China, run on the same methods and with the same management as the line he had so successfully inaugurated.

The Chinese Government had first of all to be brought round to it: they were opposed to all innovation, but some of the leading officials were induced to see the advantage that might accrue, and an extension of the line to Paoing-fu was begun.

The Chinese Government however had not the means and inclination to furnish the necessary capital to carry it on, but it was hoped that though they could not do so themselves, they might be led to take an attitude towards it which would give British capital confidence to come forward, and thus this great line would be eventually worked on the same principle as before under the Chinese Government, by British capital with a British staff and control; and Kinder continued the extension of the line with this aim in view, leaving its ultimate destinies to be disposed of in higher circles where he could no longer control them.

However good the reasons may have been, the ultimate result was, that the measures taken did not cause British capital to acquire the confidence which would have made it only too eager to come forward to take up such a profitable line: and a combination, of the Russo-Chinese bank, which is recognized in the East as a Russian State bank financed for political purposes, and of a Belgian and French Syndicate of banks were able to bring pressure on the Chinese Government to give the concession for the Pe Han line into their hands; Kinder having started his project had to experience the bitterness of having to hand it over to foreign rivals who had defeated

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Our next large city to halt at was Chenting-fu about 50 miles further on beyond which place the railway does not go at present. Chenting-fu is a city of 60,000 people but like all these large cities of the North that we passed through, has seen its best days and is in a state of decay.

There is a very fine Buddhist monastery here but it has fallen greatly into disrepair. In former days it was under the direct patronage of the Emperors of various dynasties, and the famous Chien Lung, whose name connoisseurs of Chinese porcelain will recognize had slept here and latterly it had been the head-quarters of the French General.

There is a colossal figure of Buddha 80 feet high but the whole place is in ruins, and the roof has fallen off so that the head of the Buddha is appearing through the roof.

The abbot received us and insisted on our putting up in the monastery.

As a rule Lama priests have faces betraying the grossest dullness and sensuality, but this old gentleman had fine intellectual features and a most courteous manner and we were told that he had been a great friend of the French General.

The decay of these monasteries is due to poverty; the Chinese, though called Buddhists, have very little respect for the Buddhist

his plans in an arena in which he could not enter and his strenuous and patriotic efforts to make the line one under British control failed.

Harris, our interpreter, had previous to this been employed on this Paoting-fu extension as one of the staff and it was interesting to hear the story direct from a man who had been connected with its earliest start.

Harris had spent a great part of his time amongst the mercantile community of Shanghai and I regret very much to say that when he joined us he had such a very poor idea of the way British commercial interests had been looked after in the Far East that, he used to avow with great sincerity that he was saving up his furlough to spend in the United States with the object of becoming a naturalized American citizen and I think he really thought he meant to. I am glad to say that at the end of five months journeying, when he left us he had considerably modified his views.

This Pe Han line will take at least 6 or 7 years to complete to Hankow as though going through level country a good deal of bridging has to be done.

The Southern extension to Canton has no very difficult ground to go over, only one pass of 1,000 feet above the sea and this with most easy grading.

The concession for the Southern portion of this great North to South line was given to an American Syndicate, whose claims were supported by us, as we preferred seeing it in American hands to those of other nations. Some months ago a good deal of uneasiness was caused by the rumour that they had actually sold their rights to the French Belgian interests which represented the Pe Han line, and Chang Chich Tung, the well known Yangtse Viceroy, threatened to withdraw the concession altogether as far as the portion that went through territory under his control, unless the conditions, on which it was originally granted, were adhered to. The Americans have now started at both the Tungting Lake and the Canton ends, but about 40 per cent. of the shares are said to have passed into Belgian hands. Belgian strings are largely pulled for political purposes by France and Russia, and, as an apparently neutral nation, Belgium is a very good dummy to put forward for concessions.

The influence that the nations controlling this great highway will exercise over the hinter land on either side of it, if after its completion, any further great troubles break out again in China, may be realized by any one who observed what occurred the other day during the occupation of North China.

The forces of each nation concentrated in strength and particularly interested themselves in the region of the railways in which their capital was invested and in the hinter land essential to its development.

The Russians, as every one of course knows, occupied Manchuria and the line up to Nuichuang. The British insisted on controlling the Peking-Shanhaikwan line. The French occupied all the sphere in the neighbourhood of this Peking-Paoting-fu line, and the Germans, simply because their time had not yet arrived to do so, did not occupy Shantung, but strengthened their position there, took care that none

interfered, at the same time keeping a sharp look-out on the territory suitable for an extension of a future line to Tientsin.

Though there has been a good deal of bickering yet it seems to have been more or less accepted from the force of circumstances that the sphere for each nation's action will specially be the regions in which the capital of that nation is invested in a railway line, so the great influence these lines may have in the future over immense areas of territory is well worth pondering over.

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The decay of these monasteries is due to poverty; the Chinese, though called Buddhists, have very little respect for the Buddhist

religion and none at all for the temples and never give any thing but the merest pittance for their support and that only under great pressure, and rarely.

In Peking it is true there are some rich Lama temples but these have large grants from the Imperial Government or exist on the incomes from grants of land made by former pious Emperors or wealthy men.

Opposite to the monastery was the French Cathedral, the Lazarist Bishop residing in this city ; we went across and called upon him, and were shown all over the buildings and as is always the case French Fathers were delightfully courteous and hospitable. These buildings were in very striking contradistinction of those of the tumble-down Buddhist monastery.

Tall handsome towers to the cathedral, large grounds, well kept and well built schools and chapels.

The order of Lazarists administer this part of the province of Chil-hi. Nearly every R. C. order in China has a special Province told off to it and the whole of the missionaries in that particular province often belong to that one order. It affords an excellent system for proper and economical control of church revenues, and for the administration of discipline and the work is carried on with one individual aim.

In these ways the R. C. system has a great pull over other denominations.

The next day being Sunday we attended divine service at the cathedral.

The congregation was a large one, 400 converts, of whom as is sometimes the case—even in western lands—a large number were women, many robed as nuns and novices.

The whole service was carried out with great ecclesiastical pomp and splendour, and it could not have been more imposing in "Notre Dame" but this is the case everywhere in China. I have found it in the very remotest corner of the Tibetan frontier. The service could not have had a more sacerdotal character, not a vestment nor a taper missing and this solemn, pomp and stately ceremony undoubtedly impresses the Chinese. The Bishop told us he had a diocese of 400 miles by 300 and 35,000 Christian converts in it (map).

The Fathers were very comfortable—fine old kitchen gardens, very well looked after and there was an air of solid comfort about the place and although the presence of cameras, a developing room a printing press and a pair of good binoculars with which to look at the view brought us well up to modern date, yet there was a touch of the mediæval ages about the administration of the place, and I have dwelt on it as it is typical of many other big Roman Catholic Episcopal centres scattered through China ; often owning and administering large lands and estates in which the funds of the Church have been skilfully invested, and exercising a mild but nearly absolute control over numerous converts, settling their quarrels and adjusting their tithes and Church dues and land rentals with no appeal to any civil

Court. In fact the Fathers, since they have been given official rank by the Chinese Government commonly claim the right of settling all quarrels and lawsuits between their own converts, and the complaint is made that they go beyond this and interfere in disputes between their own Christians and pagan Chinese.

Whilst we were at the Bishop's, the head official of the district called and the official dignity which the Bishop assumed as his right was very noticeable; in fact the Bishop's official rank as a Taotai gave him in Chinese eyes a right of superiority over an ordinary district official as a Hsien, though the latter exercises all the duties and authority of a Collector or Deputy Commissioner in the district. At Chenting-fu Captain Hocken of the 6th Bombay Cavalry who had accompanied us so far now left us to return to Tientsin by a route leading near the Grand Canal, and here we were able to realize how thoroughly the Chinese with their own methods have the people under control.

Captain Hocken was returning through a part of the country that was so near to Tientsin that the Chinese authorities had only just been allowed to occupy it with their troops.

We were going on through country which had the reputation of being a centre of Boxers, and of anti-foreign secret societies, but with regard to our safety the officials had no anxiety, but about Captain Hocken's return journey they were very nervous, and sent a very large escort with him. Had that particular strip of country been under the complete control of the Chinese officials for a couple of months, they would not have found it necessary to send any, I believe, except to show that he was a foreigner travelling with the consent and sanction of the authorities which is in most parts of China the main object of having an escort of Chinese soldiers and it is always advisable for this reason to have one or two. As a matter of fact we often had from six up to a dozen sent with us half-way to the next stage when they would be relieved but though we knew they were really unnecessary. We always left the matter in the hands of the officials who were rendering themselves responsible for our safety. At Chenting-fu there was a Brigadier-General who had served with Gordon and with whom we had several long interviews. He was the first of several men we met during our journey and had one not been aware of it before, one would have been impressed by the way these men spoke of the tremendous confidence Gordon was able to instil into his followers.

Many of these men of Gordon's had risen to very high rank and they had all rather a cut of the "Bahadur" about them marking them out from their fellows, and the tone of respect and admiration in which they spoke of Gordon so many years after was most impressive.

As Gordon, I believe, spoke little Chinese, the influence he exercised by example must have been extraordinary.

With these escorts we were often doing very long marches over very difficult country and they always showed the most splendid marching powers the greatest resource and readiness, and cheerfulness

and most prompt obedience. They had all the finest qualities a soldier should have, but people who saw them in China in the last troubles are very apt to add "except the one essential one of courage."

Captain Hunter and I came to the conclusion after seeing much of all sorts of them for eight months that they are not wanting in courage, certainly not the Northerners; the fault is that they have no confidence in their leaders, and you cannot expect a man to, when every one of his officers of over the rank of a subaltern is waiting in the rear of the battle with a speedy dāk laid to carry him off directly the news of disaster arrives, or to take him up to the front to get all the credit in case of victory.

The Chinese have also not been educated to save their "face" over the matter of courage. Every relation of life is with a Chinaman a matter of "face." To save "face" he will go through any hardship misery or loss and it has never been ground into him that he will lose "face" in any way by showing an unwillingness to fight. Nearly all distinctions, honours, and wealth in any walk of life and even the higher commands in the army held collaterally with some high civil appointment falling to literati, and attained by literary merit judiciously tempered by interest, so the ordinary soldier feels he has nothing to gain by "saving face" by courage, and therefore shows no sense of shame that a soldier of any other nation would have. Once the Chinese soldier is educated to regard courage as saving his "face" he will be, I believe, as bold as any man in fight, but it may take some regimental generations to instil it.

From Chenting fu to Wei Hui, our road lay through a good deal of barren sandy country but whenever we saw fertile soil, there were nearly always the tall spires of a Roman Catholic Church rising from the centre of it.

On our commenting with some surprise on this feature, to the Chinese sergeant with our escort who was a very intelligent pleasant fellow, he replied that it was not in the least strange, as when the French missionaries had established their head-quarter in a prefectural city, they did not place there branch churches specially where their converts lived, which were often poor villages, but selected villages with a good soil and gradually buying up the land brought in their converts from other parts to settle on it. In such cases the "Church" was recognised as landowner and 50 per cent. of the produce was paid into it, and after a time it became the civil authority ruling over the community which by then consisted almost entirely of converts.

He went on to lament the number of scoundrels who had been admitted into the French Church and under the political protection afforded to them as Roman Catholic converts had saved themselves from being punished for the villainies they committed. The Boxer movement in this province, had, he said, risen largely from the discontent and hatred they had caused.

All this information was given quite spontaneously and with great simplicity, and as a simple statement of fact without the least animus or ill-feeling.

This same complaint of the protection afforded to scoundrels by joining the French Church we heard from one end of China to another. Knowing as I do what good men the French Fathers are, and remembering the acts of kindness I have experienced at their hands, I should be very sorry to let it be thought that they intentionally admit men of this type into their fold.

There is, however, no doubt but that many Chinese are registered as converts who are recognized by the Fathers as not fit to be considered a baptized church member and all these men, who have no difficulty in getting registered, come at once under the political protection which French Policy readily extends to all claiming to be Roman Catholic converts.

During these earlier stages of our march we were received in the cities we passed through with a good deal of ceremony and we were much impressed with the amount of attention paid to us, all the mandarins turning out to meet us at the city gates. In the innocence of our hearts we put it down to the fact of our being still near the part of the country recently occupied by the dreaded Foreign armies, and of our being looked upon as the forerunners of possibly a more extended occupation, and we began to think we must be considered rather a formidable party; after having pictured this state of affairs you can imagine we were not a little amused to find out that ever since leaving Chenting-fu for three weeks we had been heralded from place to place as a party of missionaries, and that it was under this aspect that we were receiving so many guards-of-honour and deputations of mandarins to conduct us into the different cities; we found it almost useless to assert we were not missionaries, the officials simply smiled amiably and passed us on to the next town giving the same rendering of our position and walk in life.

Not that we in the least objected personally to being taken as missionaries. It might have had its advantages in some way, but it was hardly fair to the missionary element itself, so eventually by telegraphing we had this impression officially corrected. The attention and honours shown to us when believed to be a missionary party certainly showed how very much impressed the Chinese were at this moment with the importance of playing up to the missionary element and of the power and influence they evidently attributed to it since the troubles. A party of actual missionaries who had preceded us by about a month had been received with even greater honours and distinction. This was not due to any wish on the missionaries' part, but solely because the Chinese looked on them as people to be appeased, lest worse evil should befall themselves in retribution for the murders of foreigners during the troubles. However, we were now approaching the Yellow river which formed the demarcation line of the extent to which the influence of the allies' occupation was likely to have spread.

The place where we crossed the Yellow river was very near to where it had suddenly changed its course in 1852.

This was the 9th time it had changed its bed between the years 600 B. C. and 1851 A. D. and in consequence of the terrible destruction to life and property it causes even now by overflowing its banks it is known as "The Sorrow of China."

In 15 years 40 millions of people are said to have lost their lives in floods, or to have died from starvation from the effects of its inundations, the terrible amount of sand which, when its waters recede, is left on the surface of the cultivated lands often causes them to be sterile for years.

You will see on the map the wonderful change in its course it made in 1852, when it struck the sea south of Shantung; now it comes out on the northern seaboard of that province and at one time its channel actually corresponded with that of the Pei Ho, the Tientsin river.

This Yellow river which has one of the longest courses in the world is almost useless to man, on account of its not being able to be kept in control. For 200 miles or more from its mouth it presents the appearance of a sheet of water 12 miles in breadth; which has no definite channel, so that a boat drawing more than 20 inches has often difficulty in finding a passage. The late Ney Elias gave as the reason of this that when the Yellow river last burst its north bank, the whole body of water flowed over the lowlands to N. and E. without finding any channel until it was within a few miles of the sea. Could it have found any deep river or canal it would have scoured out for itself in time a bed, but finding none it became simply a wide spread shallow flood.

Where we crossed near Kaifeng-fu it has a defined bed, but millions of taels are spent in trying to keep it within this bed by embankments. The constant bringing down of fresh silt, and the slowness of the river current is constantly raising the bed higher, and the latter was here really above the surrounding country there were two parallel lines of embankments on the north bank about four hundred yards apart, the one nearest the river was at this place 25 feet high, 700 feet in thickness at its base and 100 feet at the top, and even this sometimes fails to keep it in bounds.

It is said that if European engineering skill took this river in hand it could be controlled and even made navigable to some distance for light draught steamers from the sea, but it would require a great initial outlay and the Chinese prefer spending and losing millions yearly over a great department which though it puts up these stupendous works is very inefficiently managed.

Crossing the Yellow river which is here about $2\frac{1}{2}$ miles wide, and has a navigable depth of $3\frac{1}{2}$ feet, we reached the city of Kaifeng-fu on its southern bank.

Kaifeng-fu was the ancient capital city of the Empire in the dynasty of Tung 1000 A. D. and has always been a city of great renown amongst the Chinese. It has good communications and is in

a fertile well populated part capable of furnishing the large supplies required for a great body of troops such as the Emperor would bring, and it was considered very probable that the Court would remain here and not return to Peking, as it was said the Dowager Empress was very uneasy about trusting herself near the forces of the allies.

However we were able to ascertain that there was not the slightest chance of her remaining here, as we were shown all over the Palace that had been prepared for the Court which was much too limited in accommodation for anything but a temporary halt.

Kaifeng-fu has always had a reputation for great hostility to foreigners, none having ever been allowed to live here and we felt very uncertain as to our reception; however, beyond finding the people extraordinarily curious, and their following us in immense mobs, we had no trouble with them.

They had never seen a foreigner in their life before, and even when we went to call on the Governor, the big doors of the courtyard of his Yamên were the scene of a strenuous struggle between the Governor's guard to close them, and the mob to pour in after us and it was only by calling up further reinforcements that they managed to keep them out.

A very curious feature in Chinese life is the public way in which such ceremonial interviews take place. Except when as in this instance the mob became turbulent and dangerous (?), there is no privacy in an interview with an official at his Yamên when paying him a call. Hangers-on and servants crowd round the doorway of the room listening to the conversation and little children will push their fingers through the paper windows to see the foreigner.

It is theoretically presumed that a good public servant should have nothing but business which the public are equally interested in, to discuss with a stranger.

The Governor was most courteous and pleasant. I nearly always found Manchus were particularly agreeable to talk to though their inward feelings to the foreigner were probably less agreeable than those even of the Chinese.

Like all officials we ever met, he referred to all the recent troubles as being the work of a few disaffected turbulent rebels and outlaws whom the Emperor had punished and now that the latter was returning to Peking, everything would become settled.

Still it was fully recognised that the allies had occupied Peking and had exacted a very heavy punishment from the Chinese nation, everywhere in the remotest villages further on where no foreigner had ever been, we found that this was known; old village elders used constantly to ask us about it, and there was none of that successful deception practiced, as in the case of the Japanese war and in previous wars with European powers, when it was honestly believed that the Emperor in his great goodness had accepted the submission of the Barbarians who had recognised their want of propriety, and had begged to be allowed to depart unpunished.

No doubt to save "face" stories of this sort were sometimes circulated. But they were not believed even by the villagers, and they were usually not even thought worth while to spread officially.

The reason why the truth this time was so widely known was:—

1. The Court's headlong flight from Peking right across Central China to Hsian-fu had caused the news to spread all along that line.
2. A famine existing in Central China caused it to be necessary to transport all the food for thousands of troops and for the immense retinues which followed the Court, from all parts of the south and west by coolies, so that the news spread to every quarter.

A thing that filled one with a great sense of pride in the behaviour of our troops in the capture and occupation of Peking was that wherever we went we were always told by Chinese, both Mandarins and common people, that everywhere news had spread that of all the European troops the only ones that had shown fair dealing and humanity to the Chinese in Peking and the surrounding districts were the British. That this was not said merely to please us as English officers was shown by the fact that they always bracketed equally with the British troops the Americans and Japanese. Whereas if it had only been from a wish to flatter, they would have extolled our troops alone at the expense of all others. Everywhere we went we heard of the good behaviour of the troops of these three nations. Even down to the Han river we found the same story repeated by the people; the fact that the trio were always linked showed it to be genuine, their behaviour was extolled in marked contradistinction to that of other nations. In this connection I may mention how well our Gurkha escort always got on with the Chinese all through our journey: they were a picked lot of men from Colonel Rundall's regiment—the first battalion of the 4th Gurkhas and one could not have had better men.

Though there are other races of India who if they cannot surpass the Gurkha are certainly equal to him in bravery, I know of no other whom I would sooner have when travelling than a Gurkha for unlike other natives of India he always assimilates with the people of the country he is travelling in. In my previous journey in 1900, when I had Gurkhas with me, even in a most unfriendly country along the Tibetan frontier of China, I always found the Gurkha, after we had had to perhaps lodge ourselves in a house almost by compulsion, would in an hour be laughing and cracking jokes with the most surely and unwilling of hosts. I would always advocate anyone taking an orderly or escort into a strange country to take a Gurkha if he wants his path made easy by getting quickly on friendly terms with the people. Provided of course that it is not a country with a purely Mahommedan population.

A little beyond Kaifeng-fu we met Hunter who had left us north of the Yellow river and had gone up to examine the place where there were half a dozen Belgian engineers making a survey

of the Yellow river with a view to bridging it for the railway line ; they were finding it a difficult task.

A little further on we struck into the Loess country and practically left the great plain of China.

This Loess formation in this part of China is unique and of the greatest importance as much of the prosperity of Northern and Central China depends upon it. Loess is a light friable yellow soil which covers a great part of Honan of Shensi Shansi and Kansuh.

We are indebted to Richtofen the German geologist and traveler for a very reasonable theory of its formation.

Everywhere you look on this sheet of yellow earth, your eye can see nothing but yellow ; the houses are made of it, the water of the streams and of the pools is yellow ; the vegetation looks yellow from the dust lying on it.

Loess is not unlike Loam but differs from it in its great porosity and its tubular structure. In this part of the world its origin is believed to be a very peculiar one and to be due to a sub-aërial deposit of sand and dust blown by winds from the Central Asian deserts and Mongolia, and deposited through countless ages on the vegetation of these parts, successive generations of plants in time have with fresh dust formed fresh soil till in some places it is a thousand feet in depth. If it were not for the Loess the whole of Northern China would practically be a barren country, as population and agriculture is confined to where Loess and alluvial soil exists, and of the latter there is hardly any in Northern China once you are out of the Great Plain.

This Loess soil exercises two marked effects on the economic conditions and surroundings of the people of Northern China.

1. It requires no fertilization and it is such a light easily loosened earth that it is ploughed with little labour. Hence whenever there have been wars or famines which have over and over again devastated this country, the latter has always been rapidly repopulated, the Loess soil never gets exhausted, and never requires manuring.

2. The peculiar vertical cleavage of Loess causing the most insuperable difficulties in free communications in a Loess country.

Looking at it in the distance, especially from a height it presents a most smooth, easy appearance with an easy incline everywhere, but this apparently easy country when you try to get through it is only passable by a very narrow, often deeply sunken, road, the only one for miles. To leave this road one must often scale the vertical Loess cliff, 50 or 100 feet above, and having done this one may get along very well for perhaps a mile, and then suddenly come on an enormous crevice right across your line only 20 or 30 yards wide but extending for miles, and which, if you follow along is found to ramify in every direction. It would be a most difficult country in which to move troops or to make a railway.

This tendency to vertical cleavage and terracing gives rise to the most fantastic configurations of the surface, it is difficult to

adequately describe it, and these photographs though good are quite unable to take in all the wild irregular terracing, and tremendous fissures which suddenly break this country up. The bluffs of Loess cliff stand out with terraced sides and steep drops alternating, and look like the enormous earthwork of some fantastic fort, whilst the dull grey yellowish look of the Loess, with the villages hidden away out of sight in the ravines, gives the whole country a most wonderfully strange aspect which no other country I have ever seen affords, and yet if you get on a height, it looks like dull plateau land stretching away, without any break in the monotonous level, as you then no longer can see the crevices and terracing.

Except where there are large villages, the people live greatly in excavations in the Loess which are built inside like a house with pillars supporting them and are most comfortable; very warm in the winter and cool in the summer.

I have dwelt at some length on this Loess country, as its difficulty was very forcibly brought home to us. We were most anxious, if possible, to avoid the Court whom we now heard were approaching Honanfu on their return journey from Hsian-fu former place, which place we had hoped to reach first and thence to go down the Lo valley, a route hitherto unexplored by Europeans. If any objection was offered to our doing so, the fact that we wished to avoid the passage of the Court was a very excellent reason to assign for going by such an unfrequented way a thing the officials nearly always object to one's doing. We were also very anxious to get out of the tracks of numerous bands of soldiery we now were meeting who were forerunners of the Court. These men were half savage, undisciplined troops from Kansuh and Chinese Turkistan accustomed to no restraint, many of them having taken part in the siege of the legations and having been withdrawn to guard the court on its flight, without having in any way felt the weight of European strength. They were inclined to be very insolent on the slightest chance, and meeting them in these narrow paths, barely wide enough to admit of one cart, closed in between two vertical Loess walls was very objectionable but we found that there was absolutely no way of finding an alternative road in this Loess country, there was only this one for miles round. However when we got within 20 miles of Honan we found we could turn up to the bank of the Yellow river but even then only up a *cul de sac* there was no getting round Honan-fu in any way by any other road and as now the Court was actually in Honan-fu and our instructions were to avoid coming into collision with it we halted for four days on the bank of the Yellow river, hoping that they would soon continue their progress to Kaifeng-fu and allow of our continuing our journey.

We had three very cold days with heavy snow on the Yellow river and then we sent in a message to the Magistrate of Honan-fu, saying that we did not wish to be an embarrassment to him by coming into the city, but that if we could skirt round it, we were anxious to get on, and would proceed down the Lo valley and so avoid coming into collision with the Court retinue and baggage on the main road to Hsian-fu.

We received a most polite message back, saying that he would be glad if we would wait one day, and he would then make arrangements. To this we of course acceded. We got off on the appointed day and halting about 7 miles on the further side of Honan-fu were allowed to occupy the rest-house which the Dowager Empress had last vacated.

These rest-houses were built about every four miles along the road from Sian-fu to Peking for the special accommodation of the Emperor on his journey and every fifteen or twenty miles at the district town a very large one had been built; in fact a small palace with just enough accommodation for the Dowager Empress, the Emperor and his wife and a few servants.

I went over the one at Kaifeng-fu and over another where they expected the Emperor would stay for the night, at a small town a few days' march before we reached Honan-fu, and where the mandarin was a particularly civil fellow and took great trouble to explain everything to us.

Although it was only one of hundreds being built along the route, it had cost 40,000 taels; 10,000 of which the official was spending out of his own pocket, in hope to stand well for future promotion. There was an ante-room which the fat little official showing us round, told us with great pride that two chairs could get through the doors; to the side of this, was a small room with a throne on one side and a *dais* on the opposite, which he told us with great awe was where the Emperor would receive and interview high officials, or rather the Dowager Empress would do it for him. All of these would remain kneeling outside until specially called for, and then they would come in with covered heads and never raise them so that they might not look the Emperor in the face.

He was much too small a man to hope to interview the Dowager Empress though as Collector of the district rather a swell in his own way, but this was far above what he could aspire to.

He then took us into the Emperor's rooms; there were three of these all about 12 feet square; in the centre one a throne chair, and in the end one a bed with canopy and curtains of silk; and on the walls most hideous commonplace wall paper; opening off these apartments were those of the Dowager Empress; another door led from them to the courtyard where the Chief Eunuch was put up.

The Dowager Empress' room was much better furnished and had a very swagger four poster with mother of pearl in-laying, and several full length mirrors; the Emperor's only had a very commonplace sort of shaving glass, and no fancy decorations.

Yellow silk hangings were in all these rooms, yellow being the Imperial colour except in the Chief Eunuch's which had pale blue hangings.

Then we were shown the "Emperor's consort" rooms and then the "special" wife's rooms, which had no furniture except silk hangings and a worked silk wadded mattress.

A jar or two of flambé and sang de boeuf and one or two jade plaques completed the decorations and there were a number of beautiful evergreens and chrysanthemums outside the Emperor's rooms.

This is very typical of all the Imperial rest-houses, in fact even the large palace built at Kaifeng-fu was exactly the same as this in appointments and rooms, only on a larger scale.

From here we now went up the Lo valley which hitherto had been unvisited by Europeans. The people did not express any very great astonishment at seeing foreign devils. Here we came across a placard urging people to join a Boxer society; it was dated the year before the troubles, it did not actually mention anything relative to Europeans, but said that very great troubles would arise and that the only way to avoid them would be to join the Boxer Society and wear the Boxer insignia, and those neglecting to do this would be liable to ten curses. Seven of these were enumerated, the remaining three were too terrible to mention, only Heaven was aware of them.

Every man who distributed one of these pamphlets would get a reward in Heaven and any one who distributed two would get a still greater one.

The notice did not dwell on the tenets of Boxerdom; it simply called upon people to believe in and join the Boxer organization.

We had now come to a stage of our journey when having got past the turbulent disorderly bands of soldiery who constituted the great danger until we had passed the Court, we decided we might safely separate into the original two parties we had intended to and after this date for the next six months we never met again for more than a few days. Captain Hunter with Mr. Harris struck up North to the bend of the Yellow river at Tung kuan and I continued up the Lo valley to the main road to Hsian fu, we were now in mountainous country; the passes being from 5 to 10,000 feet high; and were coming to a very interesting part of China, the first occupied by the Chinese when they came down from Northern Shansi more than 3,000 years ago and drove out the aboriginal tribes, and from here gradually spread all over China.

The bend of the Yellow river is of particular interest, as it is here, just below the junction of the Wei river that the great fortress of Tung kuan is situated. Here the Yellow river after having cut for some hundred miles its bed down deeply through the difficult country on the boundary between Shansi and Shensi suddenly turns due east through the still more difficult Loess ravine country between here and Honan, washing alternately the steep banks of Loess on each side, leaving no room for a path along them. There is thus no road to be found anywhere except the one carefully aligned road leading past the fortress of Tung kuan, which thus controls the whole of the traffic between Peking and the West of China. This road leading as it does to the frontier tribes of Tibet and Western China, and to the wild tribesmen of Turkestan and the unsettled Central Asian regions is the one to which most importance used to be attached

from a military point of view, and proverbs about Tung kuan and whoever holds it ruling China are very commonly repeated. In this connection the branch line of the Pe-Han Railway from Chenting-fu to Tai Yuan may some day be of importance.

Though this line is only in contemplation at present as a feeder line, there may come a time possibly not so very far distant, when Russia has either the time or it is her policy to turn her attention to making this a project for a grand trunk line.

For this great road that we are discussing now which is so admirably guarded at Tung kuan continues on through Kansuh as a broad easy road to Lanchau-fu and from Lanchau-fu a long narrow channel with level bottom and much fertile land extends for hundreds of miles between the numerous ranges thrown out by the Kuen lun system, on the South and the elevated deserts to the North till it finds through this range an easy pass, the key to Central Asia from China.

From the most ancient times this has been the road by which communication between the Chinese Empire and the western world has been carried on, and along it the supremacy of China was extended to the borders of India, Persia and Bokhara, and stories of the wonders of China reached the Persians and Romans, and it is along this line from Hami to Hsian-fu that Richtofen before the Trans-Siberian Railway was contemplated prophesied railway communication must first come from Europe to China.

The possible importance of this road was first demonstrated to Europeans by Abel Rémusat.

Hsian-fu, the next place of importance where we again met, is as everyone knows the place where the Court fled to on the occupation of Peking, probably because of the difficulty of its approaches. In this region was the ancient capital of China. In 1200 B. C. the Chou Dynasty settled down near here, and in 240 B. C. the Chinese Emperor of the Tsin Dynasty who built the Great Wall of China removed his residence actually to Hsian-fu. Until 1100 A. D. various dynasties held their Courts here, and it was from this city as a centre that much of the art and literature of China was disseminated. It is a very fine city with enormous walls six miles round, and we were glad to find a European here a medical missionary called Smith; a very fine fellow full of interesting information: but he was so busy he could give up very little time from his work. We could not help admiring the good he was doing, and I am sure he was establishing a tremendous influence amongst the Chinese; he was such a good fellow all round. It was all we could do to prevent his stripping his house, and wardrobe, and sending us everything he had to replace anything he found we had worn out or lost.

He told me there was the greatest change in the demeanour of the Chinese mandarins towards the missionaries, since their return, after the occupation of Peking by the allies. Now they could not make too much of them and whereas formerly they had cursed them if ever they passed them in the streets, they now would stop, and address them as "Ta Jen"—Your Excellency—a term only applied to the higher officials.

He thought however that though the mandarins talked so much of acquiring foreign learning and their wish for China to progress in modern ways that it would come to nothing, but was only talk, and the idea had only started because the Court had lately been publishing Edicts in the Peking Gazette, directing the establishment of foreign schools and learning. In this view though Smith had a much greater knowledge of Chinese character, I do not think that he was altogether right. The eagerness with which officials in various towns asked how they could educate their sons in Western knowledge impressed us very much.

At the next large town where I made a halt of two days, the mandarin of the place came to see me three times in one day to talk about the education of his son in English. Though in their hearts I do not think that this keenness arises from any desire of progress, I believe this last upset has so thoroughly shaken the Chinese that they are partly realizing the only way to keep themselves independent and on a level with other nations is by adopting modes of modern thought and progress, and though going about it in a blind ignorant way at first, the start has really been made.

Just outside Sian-fu is a very interesting world renowned monument on which is engraved in Chinese and Syrian characters the record of the introduction of Christianity into China by the Nestorians in A. D. 636.

But in 713 A. D. a severe edict was published against the Buddhists with whom the Nestorians were confounded and their extermination was ordered; but before this was accomplished they made one princely convert in Prester John, a Khan of Tartary, about whom such wonderful legends were current in the middle ages in Europe, but whom Genghis Khan put to death and used his skull as a drinking vessel. It is supposed this tablet was buried when the last remnant of Nestorians had to fly and was left to record their history, for when Marco Polo visited these regions though he found a descendant of Prester John, there were no Christians left and this monument was dug up some two or three hundred years ago after being buried nearly 800 years.

We had now completed the second stage of our journey. The first stage I regarded as that through the Great Plain of China from Peking to the south of the Yellow river; the second stage as that through the Loess country and the mountainous regions to Asian-fu. The third stage which we were now entering on was the crossing of that barrier of mountains called the Ch'n Ling, which to some extent in the second stage of our journey we had already touched on, which coming down from the Kukonor as a continuation of some of the mountainous offshoots of the great Kuenlun spur of the Central Asian ranges cuts off Northern China and its Loess regions completely from Western China and the non-Loess regions of the Yangtse basin.

Loess nearly completely covers the northern side of this range, and in addition to the mountainous nature of the country renders by its peculiar characteristics all communication difficult, so that through many hundreds of miles there is only one recognized road by land

to the south-west. This road is well known and we did not wish to follow it, so we struck out by two tracks hitherto unknown to Europeans across the Chin-Ling range and so got down to the Yangtse basin. This third stage of our journey was one of the most interesting and may be, I hope, one of the most fruitful in result, though perhaps not so varying in incident.

My original intention was to have given you an address on the Upper Yangtse valley and its approaches as that is the part of China in which as a nation we are so much interested, and one of which all Englishmen ought to make a study as we are only just touching on the enormous trade of this region which with its great agricultural and mineral wealth, numerous industries and dense population it is capable of giving us if proper communications are opened up by which our commerce can reach it.

It is now a case of waking up the British capitalist and investor, and the public at large to the importance of this region to the development of our trade. It is not a case of stirring up our representatives in the Far East to action, our interests are now being better, and more actively looked after than those of any other nation. What is wanted now are British capital and enterprise and if these are only forthcoming they will find no lack of backing to the uttermost extent, to put them in a position in which their interests will be more firmly established than those of any other nation in this part of China, a part to which our gunboats have access for 2,000 miles from the ocean. Gunboats alone will not develop trade in a country and no sane man wants a yard of Chinese territory to pass out of the hands of the Chinese but we do want to see our mercantile interest firmly established, and big enterprises in British hands opening up this rich Upper Yangtse country at once: a country so rich in resources and population that enterprises once started must pay: as it is capable of a development that would cause it to take ten times the trade that it does now from us.

But if enterprise is not forthcoming soon, there is a great danger that we may find that other nations have established railways, and mining interests so firmly in the richest portions of this region, that they will be able to assert a right of developing them entirely in their own interests, and keep us excluded.

For this reason and as so little is generally known about the m I should like to have touched on some of those big problems of the approaches to the Yangtse valley from different sides, to which capital and enterprise have the key, but having got so far I find I have used up the full time I can expect your patience to allow me, and I have only got over 1,000 out of the 5,000 miles of land journey we accomplished, not to mention the 1,500 by junk and river steamer.

The blame for this I must lay on my fellow traveller, Captain Hunter, who, contrary to his usual custom of doing more than his fair share of work on our journey, has left me alone to deliver this lecture: and as might have happened on our journey I have found that without his help I have been unable to get to the Upper Yangtse and have taken up all the time with the first thousand miles only.

I will now follow Jorrock's advice "cut the cackle and get to the osses"—in this case the pictures by telling you that after 5½ months' more travel in the regions adjoining the Upper Yangtse, we found ourselves travelling down the Yangtse rapids going homewards, and at Kuei chou found His Majesty's Ship *Kirsha*—formerly Mr. Archibald Little's "*Pioneer*," the first steamer to get up the rapids; whose picture I hope to show you now.

It was rather a record day as on the sands of the Upper Yangtse I played with the crew in the first game of Socker football I had ever played in my life, and also delivered my first address on China, and I only hope that this audience may be as lenient and good natured as the blue jackets then were to me.

General Sir. E. Barrow.

Ladies and Gentlemen—I must apologize for not having been able to introduce Colonel Manifold to you, I was detained by urgent business.

I think that we must congratulate ourselves that so intrepid and observant an explorer was selected by the authorities in China for this particular journey. However, before I make any other remarks, I will ask if any Gentleman present will favour us with any observations; I hope some one will do so as there is nothing more chilling than to have this greeting of the Chairman met with absolute silence.

(There being no response General Barrow continued.)

I am afraid, as there is no one else who will say anything, I shall be reduced to making a few remarks myself.

The first thing that strikes one in listening to a lecture of this kind is the vastness of China and the vastness of this exploration. Here we have an example. Colonel Manifold and Captain Hunter together traversed no less than 4,519 miles of road. Now this distance they not only traversed but they traversed in a surveyor's sense, that is to say, they had measuring wheels, plane tables and theodolites, and they carried out a road survey for the whole of this distance.

First think what that means! 4,519 miles—if you allow for halts every seventh day it means a marching survey of 20 miles a day for over eight months. Now I have done a little exploring myself and I always thought it a great deal if an average of 15 miles a day was attained. One can fully appreciate what it means in endurance, energy and enthusiasm if you have accomplished a survey of 20 miles a day.

However, a good many of you have not had experience of survey work, so that does not appeal sufficiently to your minds; I will put it in another way. 4,519 miles is about the same thing as marching from St. Petersburg to Gibraltar and back again, and that without the advantage of the comfortable hotels and splendid *Chaussées* of Europe,

but over abominable roads and rather squalid accommodation at each halting place.

If that does not impress itself upon you, I will give you another illustration. If you started from Calcutta to march to Peshawar and then went back *via* Bombay, Tuticorin and Madras, you would have traversed 4,519 miles. You will now fully appreciate the exertion and labour that Captain Hunter and Colonel Manifold endured. (Cheers).

There is one other subject which must impress itself on one's mind and that is the vast openings there are in China for British trade. China with its immense population and its immense resources affords really a better field than India. We have in India 25,000 miles or thereabouts, of railway; in China, without Manchuria, there are not 1,000 miles of railway. Just think what an opening that is for British capitalists and manufacturers—24,000 miles of rail still to be made before they attain to anything like the results we have obtained in India. But I regret to say that, either from commercial apathy, or perhaps from the apathy of our rulers, I don't know which, we have lost many opportunities; most of the railways that exist or are being hypothecated are in the hands now of our foreign competitors. That is, I think, a matter of regret, especially as we were the first to initiate railway enterprise in China. Years ago a small railway was started from Shantung to the mouth of the river and a few years after that the Chinese pulled it up. As Colonel Manifold has told you, the railway was started by Mr. Kinder to whom we really owe a great deal, but comparatively very little has been accomplished, which is a matter of great regret.

There is just one other point which Colonel Manifold has alluded to, I refer to the good reputation that our soldiers acquired in China; as it is rather a delicate matter I shall quote to you a passage with regard to it. I would not like to say anything which would hurt other people's feelings.

"The only other point on which I will trouble you is the subject of British prestige in China; commercially and politically we may have lost ground, but from a personal point of view I believe Englishmen have gained enormously in Chinese public opinion. The humanity and discipline of our troops, as compared with that of certain other nations, has had a marked effect in China, the fame thereof has spread from Peking to the south and I firmly believe that in the unknown future we shall be repaid for the good conduct of our troops by the confidence that is established in the integrity and humanity of the British."

As it is so late, I do not think it would be kind to detain you any longer. I will now merely formally close the meeting and ask you to permit me to give your vote of thanks to Colonel Manifold for his interesting and instructive lecture. (Cheers).

THE USE OF MODERN ARTILLERY IN BATTLE.

BY LIEUTENANT-COLONEL C. B. MAYNE, R.E.

During the course of the present year we have had placed in our hands the new War Office publications *Field Artillery Training* and *Combined Training*, the latter being labelled "Provisional." The new *Field Artillery Training* informs us of the artillery that is to accompany an army corps in the field. Each division of two brigades is to have two brigade divisions of field artillery, *i.e.*, a brigade division of three batteries of field artillery to each infantry brigade of four battalions. These form in each division the "divisional artillery."

In addition to these there is the "corps artillery" composed of one brigade division of two batteries of horse artillery, one brigade division of three batteries of field howitzers, and three batteries of heavy garrison artillery of four guns each. These three heavy batteries are to be formed as a brigade "division" for administrative purposes under a lieutenant-colonel.

This gives the following total of guns and howitzers :—

		Pieces.	
1 Brigade division, horse artillery	...	12	} Corps artillery.
1 Brigade division, field howitzers	...	18	
3 Batteries, heavy guns	...	12	
6 Brigade divisions, field artillery	...	108	} Divisional artillery.
Total	...	150	

Thus taking the infantry of an army corps as 25 battalions, we have six pieces of artillery to every battalion, as against 2½ per battalion in the Boer war. The cavalry brigades and divisions have extra horse artillery batteries told off to them, while a suitable number of ammunition columns are provided so as to give a separate source of supply to each brigade division and to the heavy guns. The ammunition column of the heavy batteries is to be organised in separable three sections (*vide* page 2, *Field Artillery Training*).

We need not here discuss the question of corps *versus* divisional artillery. It has been settled for us, as in Germany, in favour of divisional artillery. The whole of the field artillery is now divided up among the divisions, the corps artillery only retaining the special kinds of ordnance that cannot well be divided up. The corps artillery is thus only an administrative unit and not a tactical unit as it originally was intended to be. It only provides a resting-place for certain units until they are required elsewhere. This system gives a

strong field artillery force to each division, but it must be clearly borne in mind that the *divisional artillery is only lent to each division* until such time as it may be required for united action under the army corps artillery commander for higher tactical purposes than the mere local requirements of the division itself (see page 4, *Field Artillery Training*). It is a case of the lesser needs having to give way to a greater one. Consequently every divisional commander must be prepared to temporarily give up the artillery force allotted to his command, because the needs of the whole force, as a unit, must take priority over every other consideration when necessity arises..

Now in *Field Artillery Training*, chapter I, section 3, it is stated that "the mode of employment of artillery in the field depends entirely on the general plan of the officer directing the operations. He is responsible for the disposal of his guns with a view to co-operating with the other arms, and gives orders as to when the action of the artillery is to commence." Again in *Field Artillery Training*, chapter I, section 7, we read that "in order to co-operate with the infantry to the fullest extent the artillery commander must be thoroughly acquainted with the general's plan of attack. He must accompany the latter in his reconnaissance of the enemy and ground, and must receive from him precise instructions as to the rôle which the artillery is to carry out with regard to the attack, including orders as to the first position to be occupied by the guns." Again in *Field Artillery Training*, chapter I, section 8, we read that "when occupying a defensive position the commander of the force will give orders as to the distribution of his guns." Thus we see that the commander of a force can no longer say to his artillery commander: "I do not know anything about you, and so go ahead and do the best you can." In our field manoeuvres, tactical examinations for promotion, and in real battle the commander of a force is thus expected to formulate a plan as to what he intends to do, and every unit and arm under his command are to be made to co-operate together for carrying this plan through. These instructions are new and are evidently the outcome of the experience gained in the Boer war. One of the principal criticisms made by really experienced foreign officers about our South African battles was that our generals rarely had a definite plan of battle that controlled the action of the troops from beginning to end of the battle.

Seeing that the full responsibility for the proper use of all his arms is now placed on the commander of a force, it would be naturally expected that more or less complete instructions would be given as to the proper use of these arms. At present we are only dealing so far as it is possible to do so, with the employment of the artillery arm, and when we study what is said about it we find that the whole subject of the use of the horse artillery guns, the howitzers, and the heavy guns accompanying a force is almost completely avoided. *Field Artillery Training* deals almost entirely with field artillery, but it has a section on "horse artillery with cavalry," a special subject. It says nothing about the use of the heavy guns, and all it says about howitzers is to be found in the three following casual notices:—

"At this period of the battle (the support of the infantry attack) the greatest result can be obtained, and the most effective support

afforded to the attacking infantry, by the concentrated fire of guns and field howitzers. The former ties the defenders to their entrenchments (for retreat is practically impossible over ground swept by shrapnel bullets), distracts their attention from the advancing infantry, and tends to make them keep their heads down, while the shell from the field howitzers (whether shrapnel or high explosive) with a steep angle of descent, searches out the interior of the trenches, the reverse slopes of the position, and checks the movement of reinforcements towards the threatened points" (page 13), "Common shell (filled with lyddite) fired from field howitzers is used for the destruction of earthworks, bomb-proof cover, and buildings, and for the destruction of guns and troops behind such cover as affords them protection from shrapnel fire" (page 66). "In batteries which have a large field of deflection on their sights, such as the field howitzers, the line of fire may be accurately determined by laying," etc., (page 101). If we turn to *Combined Training* we find still less said on the subject of guns other than field artillery. In fact there is only one reference to "heavy artillery" at all, *viz.*, in section 31. "His (the defender's) heavy artillery should be sufficient to protect the front and flanks of his entrenched position, to prevent the enemy's guns from coming into action at short range, and to force his infantry to extend while still at a distance; the remainder should be employed to fire on the enemy's infantry during its advance and to foil the endeavours of the assailants to secure strong tactical points, and also to prepare the counter-attack."

The present paper aims at offering a few important suggestions on the use of the various kinds of ordnance that a commander of a mixed force may find placed under his command.

The artillery is but one of the various means of applying physical and moral force at a commander's disposal.* By means of its long ranging projectiles he can apply nerve-destroying force from a distance, and thus assist the progress of the other arms by demoralising and disorganising the hostile opposing troops. But the distance at which this force can be applied varies with the kind of ordnance made use of, as also does its physical and moral effect. The heavy guns can send their huge projectiles 10,000 yards, while the field artillery can only send their 15-lb. shells about 6,000 yards, and the horse artillery to an even less range, while in some armies their shell power is also weaker. Field howitzers have powerful shells, but owing to their very high trajectories, which is their special quality, their useful range is limited to under 5,000 yards. Such long ranges, however, are only practicable in a clear atmosphere like that of South Africa and in a suitably hilly country. In European warfare it is doubtful whether ranges over 4,000 yards, or even 3,000 yards, would be possible in battle.

The mobility of the various kinds of ordnance and the means of supplying them with ammunition must also be considered. The horse artillery are naturally the most mobile, in fact this is their chief quality. The field artillery is also very mobile, while the field howitzer and heavy guns can easily march with infantry without delaying them,

* Lieutenant-Colonel May has pointed out that a well placed torrent of shell may under certain circumstances be equivalent to a charge of cavalry.

if sufficiently good roads or tracks are available. As regards the supply of ammunition, the chief difficulty is with the heavy guns and field howitzers whose projectiles may be as much as 50 or 60 lbs. each.* The 4·7 inch gun, so much used in South Africa, weighed 4 tons, gun and carriage, while 100 rounds of its ammunition (shell 45 lbs., charge 15 lbs.) weighed another 2½ tons. A 6-inch or 100 pr. gun and carriage weigh 10 tons and 100 rounds of its ammunition, 6 tons. However 4·7 inch guns at times accompanied the advanced and rearguards in Natal, and did most useful work for them with their long-ranging and hard-hitting qualities. There is no doubt about the nerve-destroying power of great shell power, but the greater the shell power, the harder it is to transport and supply the ammunition in adequate quantities.

The moral effect of all firing, rifle or artillery, is always greatly increased by concentration and rapidity in securing effects. This is especially the case with the noisy exploding projectiles of artillery. In a concentrated fire, these bursting and slaying projectiles succeed each other so rapidly that, before men have had time to recover from the terrifying effects of one shell, the others arrive one after the other, producing, *if well placed*, a paralysis or nervous prostration that, *after a certain time*, renders the troops affected by the fire almost incapable of further resistance. And the greater the power of the shells the greater is this demoralising effect. And the paralysis thus caused is the greater the more rapidly it is attained by concentration and rapidity of accurate fire.

But all this will only happen if the shells are well placed, and this again will only occur if the targets can be seen and are vulnerable. These conditions of visibility and vulnerability of target are, however, the great difficulty of modern fighting, especially at the longer ranges. We can perhaps trace the influence of these factors in the organisation laid down from artillery. We see that the horse artillery, field artillery and field howitzers are organised in brigade divisions, but not the heavy guns which remain organized in batteries only. These latter will come into action at long ranges where they can be more easily supplied and where, if need be, they can be more easily moved right or left. They will, moreover, probably be dispersed and not massed, at all events at the outset of the fight, as they will in all probability have to carry out what may be called the artillery reconnaissance besides trying to keep down the fire of the hostile heavy and field guns. Their ammunition column is organised to admit of their dispersion. Their long ranging power enables them to easily concentrate their fire on any given locality when necessary, without having to mass or bring the batteries together. And the dispersion of the heavy batteries, combined with their long ranging power, facilitates their being used later on for enfilading the flank or face of an enemy's position, or otherwise assisting a flank or holding attack.

The brunt of the artillery fight must fall on the field artillery with its 108 guns per army corps, assisted by the 12 horse artillery guns of

* Nothing is stated in the new *Training book*: as to the shell power or calibre of the heavy artillery and field howitzers in use. But it is probable that they will be as powerful as possible compatible with mobility to keep up with marching infantry.

the corps artillery and any other guns that it may be thought advisable to temporarily withdraw from the cavalry. And while this prolonged fire-fight is going on, the field howitzers will be gradually moving forward under cover to a suitable relatively short-range position, probably a concealed one behind rising ground, and getting its numerous requirements ready to enable it to take an effective part in the final torrent of fire or blast of destruction that should be directed on the locality of assault for a short while before the assault is made. It may be taken as a working principle, that field howitzers should co-operate with field artillery, and hence closely follow them. Thus the horse and field guns and the field howitzers are best used in bulk, and therefore in masses, and consequently are rightly given a brigade divisional organisation which is not needed for the heavy guns. The horse artillery will probably give its assistance most effectively by arriving at speed and coming into action, at relatively short ranges as compared with those of the field artillery, just in time to take part in bringing about the intense moral crisis or paralysis that should immediately precede an assault not only to assure the success of the assault but also to make its success as highly effective as possible. But this chief use of the horse artillery does not preclude its employment on other parts of the battlefield, especially in supporting-holding attacks and feints, and in helping on the progress of flank attacks, until it is wanted to assist the progress of the assault.

The tactical unit for horse and field artillery and for field howitzers is the brigade division (page 82, *Field Artillery Training*), but apparently for heavy artillery it is the battery, for the reasons already given. This decision is all the more important from the demand that has been made by so many writers for the breaking up of batteries and the use of single guns as a lesson from the Boer war. Happily no concession has been made to this demand, and it may be of use to somewhat further consider the reason why.

The purpose of artillery is to level at a distance the material, intellectual and moral obstacles that prevent the victorious forward advance of the other arms of the force, except at the cost of undue and crippling losses among them. Not only is artillery required to destroy or search out occupied trenches, ravines, walls, woods, villages, etc, but also to so disorganise and demoralise the enemy, by breaking up his organic tactical units, and reducing the *morale* of his troops to the condition of "unnerved pulp," as to make them not only incapable of acting aright, but also desirous of seeking for safety either in flight or by surrender, when threatened by the application of the hand weapons and brute force of an infantry or cavalry charge. The difficulty is to effect this purpose. It is easy to state our aim, but it is hard to put it into useful effect. The destruction of the enemy's means of resistance by a "wearing-out" process all along his front requires an enormous expenditure of ammunition, and is only likely to be effective against raw troops possessing a low *moral* and feeble manœuvring power. The best means for assuring victory is to hotly engage the enemy along his whole front so as to bring about a powerful moral strain, and, if possible, disorganisation in his ranks, and then,

while thus keeping him strained, to strike a rapid and smashing blow, if possible by surprise, by means of a heavy, suddenly opened concentrated fire on some suitable point of tactical importance, thus producing an "event" as Napoleon I. called it, and at once following it up there with an assault by infantry or cavalry before its staggering effect has passed away.

Now this process demands the maintenance of effective control by a single will over the fire of the guns as a whole, which could never obtain if the guns were allowed to be used independently. The few occasions in battle in which a gun could be usefully used independently are not of such tactical importance as to outweigh the advantages of a controlled use of the fire of the artillery as a whole. Of course, we are here referring to regular battles, and not minor operations such as those carried out by small flying columns, etc., which may have a couple of guns attached to them. Both peace and war experiences have demonstrated the very small tactical value of guns used independently; and that good results can only be obtained by the concentrated fire of a number of guns controlled by a single superior will. The Boer war has again and again showed the small tactical value of only a few guns even when firing shrapnel, whereas in the Franco-German war the much despised common shell of 9-pr. and 15-pr. guns performed wonders when, as at Mars-la-Tour, Gravelotte and Sedan, over 100 guns were placed in line to concentrate their fire on some given locality. We only fiddled with artillery in South Africa and so only got fiddling results. This was not the fault of our gunners, but of our peace administrators, who did not give them the proper number of guns necessary for the conditions of the fighting.

But recognising the need for an efficient control over the fire of all the guns as a whole, the next thing is the means of attaining it. Here comes in the brigade divisional unit. The brigade divisional commander has only to deal with 2 horse or 3 field batteries as the case may be. Experience shows that this is as much as one man can look after. The higher artillery commanders have then only to deal with brigade divisional units. For tactical purposes, therefore, the brigade division is not to be broken up except for some special and temporary purpose (page 6, *Field Artillery Training*). But to secure a concentrated fire, should brigade divisions be brought together, or massed as it is called, or should they be

* *Combined Training*, section 8
(6). 16 (3), and 26 (3).

dispersed? Dispersion enables cross firing to be employed*, which under certain circumstances is very effective when it can take any portion of the enemy in flank, while it also makes it more easy to conceal the guns, but it increases ranges and makes control over the whole more difficult. Hence dispersion can be more easily used by the defensive than the attack, because, in preparing for the defensive, arrangements can be made for the rapid passing of orders and for the easy transference of batteries and brigade divisions from one part of the battle field to another (see pages 6 and 15, *Field Artillery Training*). In the attack, on the other hand, it appears to be best to mass the brigade divisions at certain points along the front of the enemy's position so as to overwhelm his guns and troops when they are discovered, and to

make special arrangements for the rapid massing at the right place and time of an overwhelming number of horse and field guns and howitzers when the time comes for producing "the event" or moral crisis that should precede the infantry assault.

The regulations only provide for a brigade divisional staff (page 114, *Field Artillery Training*), but the divisional artillery commander and the army corps artillery commander should also have similar staffs provided for them to enable them to carry out the duties that are laid down for them (pages 4 and 5, *Field Artillery Training*), when the brigade divisions under their respective commands are massed.

During the artillery preparation the heavy batteries will be each carrying out the special orders that it has received, and the field howitzers will be finding their way as the case may be, to the place of their immediate or final employment.*

* See *Combined Training*, sections 11 (2 and 3) and 12 (6).

However, if the course of the battle goes adversely, the field howitzer brigade division may be called upon to act as ordinary guns at any part of the battlefield. The heavy batteries, having to fire from the outset of the fight and at long ranges, will, as a rule, fire slowly and deliberately, so as to enable their ammunition to last out; but the field howitzers, on the other hand, having normally to fire only at the close of the fight and at relatively short ranges, will, as a rule, fire as rapidly as possible consistently with accuracy and effectiveness.

The question of the replenishing of the expended ammunition is another great reason for the strict maintenance of the brigade divisional organisation, as each brigade division, and also the three heavy batteries have their respective ammunition columns. It would be impossible to give each horse, field, and howitzer battery a separate ammunition column. But this question of the supply of ammunition to the guns is so important that it is more than once laid down that guns are to be always accompanied by their ammunition wagons (pages 6, 19 and 178, *Field Artillery Training*). The batteries carry about 150 rounds per gun, but in South Africa as much as 200 rounds per gun were often fired in a day; and as battles may last for more than one day [Sec 11 (3), *Combined Training*] we see the importance of an ample ammunition supply and of a close communication between it and the brigade divisions and heavy batteries. This question of the duration of battles is a most important one on the subject of economy in expenditure of ammunition. Both sides will conceal and entrench their guns as much as possible and make all possible use of indirect firing, in spite of its many disadvantages, with the result that much of the firing in the future will be very problematical, owing to the difficulty of accurately locating the targets, and must therefore be conducted with the greatest care. This will especially be the case with the heavy guns which will almost certainly be the first guns to open fire and which are the hardest to keep supplied, on account of the weight of their ammunition. However the utility of these heavy guns is undeniable in keeping down the fire of any visible hostile guns and troops.

The effect of the invisibility and invulnerability (behind cover) of the enemy's troops and guns will be to put off the artillery duel, if it comes off at all, to a later period of the battle than in the past. Section 31, *Combined Training*, suggests the possibility of no artillery duel at all taking place, while section 18 (3) points out that, as a rule, the first duty of the attacking infantry will be to enable the artillery to find a target. For this purpose the infantry must push forward lines of skirmishers preceded by scouts [Section 12 (3)] to draw the enemy's fire. Having done this, and having found suitable tactical targets for the artillery, the infantry should make no further advances until the artillery preparation (not necessarily a duel) is complete [Section 18 (3)]. If there is a duel, the enemy's guns must be the principal target to be fired on until silenced [Section 18 (1)]. Thus the artillery, if present in adequate strength, is "the regulator of the battle;" and according as it fulfils the task given to it, the more certain is the victory and its completeness. If it is present in adequate strength and is properly used, "it can exercise decisive influence upon the course of the battle, and contribute in a very large degree, to bring it to a successful conclusion. By means of it the object sought to be attained can be brought about in the shortest possible time, and at the smallest possible sacrifice, possessing as it does a very wide sphere of action, which enables it to inflict great losses on the enemy at very considerable ranges; during an action it is less subject to destruction and demoralisation than the other arms, and even when in action and distributed in different positions it remains, to a greater extent than they, at the disposal of the general commanding. It may therefore fairly claim the title of the "regulator of the battle," and we should utterly undervalue the power of this important arm if we regarded it as an auxiliary arm to the infantry. . . . In laying down rules for the tactical employment of any one arm, we must be careful not to confine our attention to the special requirements of that arm; for *the force and value of tactical results do not depend on the special tactical results of any one arm, but in the combination of all three arms acting in harmony towards one object in common.* To subordinate the tactics of artillery to those of the infantry would have for its result to waste to a great extent the power which lies in the former to bring about decisive results at critical moments; while at the same time it would be of little advantage to the whole to establish principles for the tactics of the other arms on the requirements of the artillery. The latter, notwithstanding its increased power of independence, is still, as it always has been, incapable of fighting alone; and much that might be put forward as especially favourable to the employment of artillery must be laid aside before the requirements of combined tactics."*

This last remark applies largely to the choice of positions. Field and horse artillery must, like infantry, be prepared to fight on any ground on which they can find room for deployment, making use of whatever cover they can find, and employing, if necessary, indirect

* *The Tactics of Field Artillery* by General A. Von Schell, pages 8 and 10.

firing.* Guns may even have to fight in tiers on occasions, especially when the final "event" has to be brought about at all costs. Artillery, especially of all the arms, needs to be used in bulk to produce great tactical results, and, moreover, it must be given the requisite time to do this. A few guns are almost useless. The minimum number of guns required nowadays is at least 6 guns per battalion, and under the present organisation it is probable that even a detached brigade will have with it a brigade division of field artillery, and perhaps a battery of horse or of heavy artillery, or of howitzers, lent to it from the corps artillery according to the purpose of its mission. And infantry and artillery must work in close co-operation especially in regard to interchange of information. *Combined Training* lays repeated stress on this,† but it requires a thorough organisation and practice before any efficient results can be derived from it. Artillery cannot expect to do much nowadays without the co-operation of infantry to inform it of the locality of its targets, because to know what to fire at is the first essential element of effective artillery and infantry fire.

The chief danger in the future will arise from the utterly false usages practised and ingrained into our troops in our peace manœuvres. In no way is the time required for an efficient artillery preparation ever allowed in these manœuvres, with the result that our troops get an utterly erroneous idea of what a modern battle is like. Nothing less than a 10 hours' action for both infantry and artillery, under as near war conditions as possible, will be of any real use in training our troops for war. But, alas! who is to pay for the ammunition? And yet both infantry and artillery ought to be accustomed to the extreme fatigue entailed in a prolonged fire fight, and to the vast importance of not wasting their ammunition.

Surprise is a very important moral element in war, and artillery can best make use of it by combining it with fire effect. This is done by bringing a mass of brigade divisions, and if need be any stray batteries also, into action simultaneously and unexpectedly on the artillery position chosen. Great stress is laid on this method of procedure whenever it is possible to carry it out.

The South African war showed the great advantage of advanced and rearguards being provided with heavy guns. Lieutenant Colonel E. S. May has shown that their use for these purposes was rendered possible by the containing power of the modern small calibre, flat trajectory magazine rifle with smokeless powder. And the large ranging and hitting powers of these heavy guns compelled the utmost respect being paid towards them. Earl Roberts, speaking in March 1901, said: "The war has taught us much, and it is our duty now to see that we make the best use of the lessons we have learnt. The most important of these lessons, to my mind, is the necessity for including heavy long-range guns as part of the equipment of every field army. The way in which the Boers brought their heavy guns into action, and managed to drag them about over a rough, hilly country

* One of the chief objections to the use of indirect firing is the great difficulty of rapidly directing the fire on a new or on a moving target, which is a most important consideration in field fighting.

† Section 10 (7) and elsewhere.

without any roads at all, was a revelation to most of us, and very upsetting to our preconceived ideas as to the use that could be made of guns of position. Constant demands were made to me for heavy guns, and 10, or even 20, more 5-inch or 4.7-inch guns would have been of the greatest value in South Africa. Again I hope it will be possible to provide our horse artillery with a more effective gun without impairing its mobility."

With regard to the position of the heavy guns on the line of march before a battle, it is probable, for reasons of mobility for immediate use, that some field artillery will head the column of guns, but, for reasons of their persuasive effect, the heavy guns will not be placed very far behind the leading guns, or from the head of the whole marching column. The ammunition column of the heavy guns should perhaps be the first to follow the main column. The howitzers may be placed in rear of all other guns, even though this arrangement temporarily breaks up the corps artillery; but this is immaterial as the corps artillery is no longer a tactical unit as it used to be.

As regards artillery escorts, the importance of which has been so much emphasized by the Boer war, it is a moot question whether the field artillery brigade divisions should not be provided with permanent mounted infantry escorts of their own, instead of having to rely on constantly changing escorts, temporarily loaned to them from the nearest troops of the other arms, and thus breaking up other units for their protection.

The effect of lyddite shells was disappointing, on the whole, in South Africa. Much seems to depend on the size of the shell, the sensitiveness of the fuze and the hardness of the ground struck by the shell. But the nerve-shattering power of a well placed and successfully detonated lyddite shell is so great that every effort should be made to secure a greater percentage of detonations in the future than was obtained in South Africa.

It is so important for artillery both to see what to fire at and to observe the effect of its fire when firing, that it seems necessary to permanently provide the artillery arm with balloon equipments as part and parcel of its normal organisation. These balloons would thus find a regular place in the organisation of an army, while they would still be available for ordinary reconnaissance work when necessary.

Another very important question is, whether a considerable portion of the field artillery should not be composed of 25 or 30-pr. guns? There can be no doubt as to the great tactical value of shell power, and the tactical efficiency of our field artillery would be greatly enhanced by a suitable proportion of guns of larger shell power than the commonly used 15-pr.

There are many other points relating to the use of artillery in battle, but these are more or less fully dealt with in the new training regulations. All that has been aimed at here is to bring forward certain important omissions in these regulations, and to bring certain other points into greater prominence.

THE TRAINING AND EQUIPMENT OF CAVALRY AND MOUNTED INFANTRY IN INDIA AND THEIR RESPECTIVE ROLES IN WAR.

BY CAPTAIN W. B. JAMES, 2ND BENGAL LANCERS.

Motto.—Ad utrumque paratus.

In considering the rôles of Cavalry and Mounted Infantry in the future we are met at every turn by the diverse opinions of many writers, expert and otherwise; and it is extremely difficult on the data represented by these opinions, not only to arrive at any correct solution of the problem, but even to construct the figure on which to base our proof.

In the first place, with regard to cavalry, we have a mass of historical facts, endless deductions, right or wrong, from these facts, and a recent war. To which are we to turn for an answer to the oft-propounded question: "Is the day of cavalry over?"

That is the great question. If we allow that the use of cavalry proper is no longer possible in war, we must at once admit that there is no necessity for maintaining the two arms,—cavalry and mounted infantry.

If the sword and lance are obsolete, we must turn all our cavalry into mounted infantry, mounted on smaller and less expensive horses, and by the saving thus effected maintain a very much larger force of this arm than even the present strength of cavalry.

But the day of cavalry is not over; and the opponents of shock tactics and advocates for dismounted tactics lose sight of the fact that the "charge" is not the only reason for the maintenance of cavalry, and forget the vital importance of reconnaissance, detached duties and the strategical employment of this arm on a large scale.

The lessons of the American War of Secession have never been properly taken to heart. It has been affirmed that there is little to be learnt from this war from a cavalry point of view. The whole question hinges on a confusion of terms.

If the sole standard by which we are to judge the efficiency of cavalry is its proficiency in the use of the arme blanche and in shock tactics then certainly the American horsemen were not cavalry; but more certainly they were not mounted infantry, not as the term ought to be understood. They were mounted rifles, not incapable of employing shock tactics when occasion required.

But the important point to be remembered with regard to them is their large strategical employment.

Again, to turn to the Franco-German war, it is scarcely necessary to allude to the success attending the German cavalry even in its

embryo state of strategical action. If the whole of it had been armed with the carbine it is impossible to estimate the results that might have been achieved.

We have an excellent example of the strategical employment of cavalry in the operations of the German horsemen which hung on to the enemy and harassed Bazaine into accepting battle, and so prevented him from effecting a junction with MacMahon at Chalons, while the German infantry thereby gained time to sweep round and force him back into Metz.

Now if it be allowed that cavalry proper will have a large, and possibly, as I shall endeavour to show, a larger sphere of action in future wars, we must maintain it, while remembering the immense utility and advantage of mounted infantry.

The two arms must be kept distinct; cavalry must not be permitted, while increasing its efficiency with the carbine, to become mounted rifles, nor must the mounted infantry be allowed to emulate the cavalry and depart from its distinctive and distinguished rôle of mobile infantry.

The principal and initial use of cavalry is a strategic one, while its skilful strategical employment will often place it in situations whence it can seize tactical opportunities.

For this, including as it does detached duties, reconnaissance, contact squadron work, etc., we require good riders mounted on the best horses procurable, capable of covering long distances in pursuance of the strategic plan of campaign, or of carrying out raids or an effective pursuit.

By best horses I do not mean the most expensive, but the most suitable and the most perfectly trained.

The men and horses must be trained to the highest possible degree to enable them to carry out this rôle; and the training must not be cramped. It must be carried out largely in the open and on varied ground.

Now what is the rôle of mounted infantry? In the first place, the term is misleading, but it must serve for lack of a better.

The rôle of mounted infantry *per se* is essentially a tactical one. When in conjunction with cavalry it undoubtedly participates in, and assists, the large strategical movements of the latter: but as it ought to be constituted it is not suited by itself to undertake them.

Apart from its great value as a support to the advanced cavalry and as an escort to artillery its main sphere of utility will consist in its actual tactical mobility which will enable the general to materially change the tide of battle on the enormously extended fields of the present day.

If Napoleon's maxim, that 10,000 men who can march twenty miles a day are worth as much as 20,000 who can only march ten miles a day, is true,—and it is probably truer now than it was in his time,—then 10,000 mounted infantry are equal to 20,000 ordinary infantry. But 20,000 infantry are equal to 40,000 cavalry armed with

an inferior firearm. Therefore it would seem that 10,000 mounted infantry are equal to 40,000 such cavalry.

But when we arm the cavalry with a weapon practically equal to the infantry rifle, which will shortly be the case, and train it thoroughly in practical musketry, will this calculation still hold good? No. It is far more probable that Napoleon's other dictum, that 3,000 men trained to fight both mounted and on foot ought to be equal to 2,000 infantry, is not only much nearer the mark but is even an under-estimation.

I think it would hardly be an exaggeration to say that 10,000 cavalry thus armed and thus trained, and given the arms it is mainly a question of training, would, at any rate from a strategical point of view, be equal to 15,000 infantry.

What then would be the value of a force of such cavalry supported by 5,000 mounted infantry from both a strategical and a tactical point of view?

When we have armed our cavalry with a firearm equal, or nearly so, to that possessed by the infantry, the nature of the ground will not impose the same strict limitations on its action as heretofore.

But it must not be imagined that it is advocated that cavalry should relinquish the mounted rôle, or that it should acquire the habit of employing dismounted tactics in season and out of season. I desire merely to emphasise the fact that the possession of a superior firearm will obviate, to some extent, one of the greatest difficulties, that pertaining to the terrain, which cavalry has hitherto had to contend against, and will open up for it a still larger sphere of utility.

However well cavalry may perform its detached duties it can only have a very limited offensive power if it is not armed with a superior firearm, and thoroughly trained and proficient in dismounted tactics to enable it to take advantage of every circumstance and every condition of terrain. All the more is it true that cavalry poorly equipped and indifferently trained in the matter of firearms has little defensive strength.

Another question to be borne in mind in considering the subject of cavalry is whether this arm is always utilized to the best advantage by the commander of the army in the field.

It has been said above that the most important rôle of cavalry is a strategic one, and, if this be allowed, it can hardly be denied that, generally speaking, the art of using cavalry is little understood.

In the days before mounted infantry had acquired the importance which it now possesses, and in the period of close fighting, cavalry was a great factor on the actual battlefield; and even now, owing to the extremely rapid expenditure of ammunition, the immense area over which modern fights take place, and other causes, it will still have opportunities; but the field of battle is not now the place where the skilful general should expect to derive the greatest advantage from his cavalry.

It is a maxim in war that an army should not operate from two different bases or with two separate lines of communication: but it

has yet to be considered whether this applies to self contained force of cavalry, supported by mounted infantry, with its moving bases, and elastic lines of communication, or even none at all, but such as are maintained laterally with the main army.

We will assume that war has been declared and that the country between the opposing forces is suitable for cavalry,—hill warfare is another question.

Now the accepted principle is that the cavalry should be pushed well ahead of the army to acquire information and to act as a screen. Now the mere fact of the cavalry advancing on a certain line is a sure indication to the enemy that the main army is behind it.

Let us suppose that the general covers himself with a small force of cavalry, principally well led officers, patrols, supported by formed bodies of mounted infantry, and that he despatches his main force of cavalry, alone or with a suitable proportion of mounted infantry if available, on a different line of advance to reach the enemy's flank, rear and possibly his lines of communication.

If this operation, practically a raid, were successful what immense results might not be gained.

If, on the other hand, the enemy's cavalry drew off to oppose the advance of our cavalry our officers' patrols in front of the main army would have increased opportunities for the acquisition of information concerning the enemy's main forces, while the mounted infantry supporting them would form a very formidable barrier to any advance on the part of the enemy.

The above is so simple and so essentially in accordance with the spirit of cavalry that it seems hardly necessary to mention it. But the point I wish to emphasise is that, in most cases, the cavalry is used too much as an inseparable part of the army, too much as the short-reaching sword in the hand and not enough as the far-reaching arrow from the bow.

The ideal cavalry is that which can fight on foot and attack on horseback.

It is unnecessary to enter into details of the splendid services rendered by the cavalry—or mounted rifles, if the term cavalry be considered unsuitable—in the American Civil War: the heart of every cavalryman must glow with enthusiasm when he reads of the deeds of Stuart, Sheridan, Forrest, Grierson, Morgan and others, and he will be a bold man who will assert that the days for such exploits are gone never to return.

There is no reason why similar glorious opportunities should not present themselves in future wars to the bold and dashing cavalry leader, provided our men are trained to act on foot as well as on horseback and that the horses are brought into the campaign in hard condition and not over-burdened with dead weight.

Now that we have mounted infantry for tactical use in comparative proximity to the actual field of battle, we can afford to set free our cavalry to a wider field of strategical action.

The following quotation from Commandant Picard's brochure "*Cavalerie ou Infanterie Montée*" is not inapplicable in view of the possibility that we may one day find ourselves face to face with Russia within or beyond the frontier: "It has been sought to deny the possibility of analogous raids (America Cavalry in 1861-65) in European wars; this is an error, and operations of this nature undertaken against the rear of an army, against its impedimenta and its lines of supply would have the greatest influence on the final result. The question of supply for the masses of men who would be collected on the battle fields of the future becomes more and more vital; and it will be more important than ever to check the heads of columns and attack the rear. But it is cavalry alone which is capable of making these rapid raids and widely extended movements. And in that case it matters little whether it fights on foot or on horseback: surprise is the best guarantee for its success."

It has been said that Stonewall Jackson would not have won the battle of Chancellorsville if Stoneman, with his large force of cavalry, instead of being engaged in a raid elsewhere, had been on Hooker's exposed flank; and this is probably true. But this was essentially a case where mounted infantry, as constituted at the present time, acting on Hooker's right flank in the absence of the cavalry, could have prevented the surprise by Jackson.

Again, we have Gourko's first passage of the Balkans in 1877 as a splendid example of the possibilities open to a large strategical use of cavalry, though certainly the later performances of the Russians did not fulfil this early promise; but this was mainly owing to incapacity in the leaders.

The operations of our cavalry in Egypt in 1882 evince a fine spirit of cavalry leadership and strategic execution, though the opposition encountered cannot be said to have been of a very formidable nature while the country was eminently favourable.

The present war in South Africa discloses but one instance of the real strategical use of cavalry,—the brilliant march of French's division to Kimberley and thence to Paardeberg. But, on the other hand, it must be left for future commentators to discover the reason why the Pretoria-Delagoa Bay Railway line was not raided and destroyed by our cavalry before the main army reached even Johannesburg.

A strong brigade of cavalry, had such been available, with some horse artillery, pushed away to the right flank when the International Army commenced its advance from the river on Peking, might have seized the Empress and Emperor of China and their entourage and enabled us to dictate our terms at the Summer Palace.

The French during their long period of fighting in Northern Africa experienced the necessity for supporting their cavalry with improvised mounted infantry. The reasons for this are not far to seek. Apart from the difficulties of the country with regard to forage and provisions, the small forces of cavalry available, which were pushed in

pursuit of the tribes, found themselves too weak both in numbers and in the quality of their firearms and training in their use, to cope successfully with the enemy when they did overtake him.

The mounted infantry improvised for the purpose performed valuable service, but as it was only an improvisation there is little to be learnt from a study of its organization, equipment and training.

Cavalry armed with a superior weapon will be more independent in the future, and cavalry officers need no longer be disturbed at the idea that it is owing to the weakness of their arm that mounted infantry has been brought into existence to support it.

Cavalry, though considerably strengthened by the support of mounted infantry, will be able to act successfully without it ; but no general would wish to be without some force of the younger arm in future for tactical employment, and the side which possesses the larger proportion will have an immense advantage.

It is now necessary to consider the question of the armament of cavalry and the respective value of horsemen armed only with firearms and of those armed with swords or lances as well as firearms. This represents in a few words the difference between mounted rifles and cavalry proper.

Horsemen armed with firearms only, even though highly trained as cavalry, cannot cope successfully with cavalry either in attack or defence.

To enable them to take the offensive they must dismount. Their led horses at once become a source of danger, while the opposing cavalry can push forward by a detour and either outflank them or leave them severely alone. Mounted rifles cannot afford to run the risk of being caught mounted.

The same argument applies to the defence.

The very soul of cavalry action lies in the power to rapidly assume the offensive. Mounted rifles do not possess this power. If the Boers had possessed a cavalry division to launch on Methuen's paralysed forces at Magersfontein who can say what the result would have been.

To take away from cavalry its power of thus assuming the active offensive by mounted action by depriving it of the *arme blanche* is to withhold from it a very considerable advantage without a compensating gain.

We may conclude, therefore, that cavalry, in order to enable it to fulfil its rôle as cavalry, must be armed with the best firearm obtainable and with either the lance or the sword. Lancer and sabre regiments should be in nearly equal proportion in all field armies.

Before the introduction of modern arms of precision the difficulties of cavalry commenced when it reached the enemy, the serried ranks of pikemen or the infantry squares.

Now, the problem to be solved is how to get over the intervening dangerous zone. Once that phase has been passed or similar results have been achieved by a successful flank movement the opportunities

for actual shock tactics may be greater, more simplified and less hazardous.

Certain well defined effects may be produced by a skilful strategical employment of cavalry without necessarily engaging in any tactical encounter and the confidence engendered by the possession of a good firearm as well as the *arme blanche* will materially assist such a consummation.

During the march from Bloemfontein to Pretoria the cavalry was used purely tactically with the result that comparatively little loss was occasioned to the enemy. At the Zand river, for instance, if the cavalry, instead of being employed on the immediate flank of the army, had been previously pushed to the north to sweep back on the rear of the enemy and cut his communications the results might have been very different and far-reaching.

Now what are the types of warfare in which the cavalry of our army in India has found, and may find, itself engaged?

1. Frontier warfare, in which the rôle of cavalry must essentially be a dual one, that is to say, apart from its service of reconnaissance, the frequent employment of the carbine and occasional shock action.
2. War in China, where well led cavalry will find equal opportunities for both forms of action.
3. War in India itself, where the same conditions apply as in 2.
4. War in Afghanistan or Persia, possibly against Russia, where it will find itself opposed by cavalry which has been trained to a great extent on the pattern of the American cavalry of the civil war, and whose action will probably bear a greater resemblance to that of the Boers than any we have yet had to encounter, except that it will partake more of the offensive.
5. War against native tribes of Africa where the conditions will be more or less similar to 1 and 2.
6. European warfare: probably a remote contingency, for our native cavalry at least, and one which need scarcely be considered, since the training for the other types will, or should, prepare us for even this eventuality.

Now in all these cases the efficient performance of detached duties is equally important. We may also put on one side the question of mounted action against cavalry, for that is the one unchanging and unchangeable feature of cavalry tactics. When cavalry is opposed to cavalry shock action will inevitably result except under very unusual conditions: such as, when the weaker body holds suitable defiles or positions, when the strategical plan of campaign imposes defensive action, or when it is necessary to attack cavalry acting under such conditions. We have therefore to consider the cases of cavalry acting against infantry or mounted infantry in the (1) defence; (2) attack; (3) pursuit. We may dismiss the first case by stating that a superior firearm will enable cavalry well posted to hold off superior

forces of infantry for a considerable time, while its mobility will enable it to withdraw if hard pressed. This applies also to rearguard actions.

The second case is the most difficult to discuss. Only under very exceptional circumstances can cavalry hope to operate with any degree of success against infantry, and when these circumstances exist the mounted rôle will probably be as effective as the dismounted rôle. In any case a containing fire by a portion of the cavalry and a turning movement by the remainder will offer the best chance of success.

Third case. No victory is ever complete without an effective pursuit and herein the cavalry will find its greatest opportunities. If originally pushed ahead on the main line of advance it will, on the eve of the collision, draw off to a flank and be ready for any eventualities. If operating originally on a separate line it will be on the flank of the enemy and in a position to hinder his deployment, harass his communications and readily launch itself in pursuit. In this case it will certainly not be so possible for it to take part in the actual battle. But, owing to the power of modern firearms, until the enemy is practically beaten, the mounted action of cavalry cannot achieve any great measure of success except by creating diversions and relieving pressure, and for these purposes a portion of the cavalry might be held under the orders of the Commander-in-Chief, while the tactical mobility of mounted infantry will also partly supply the place of cavalry in the fight.

Hence we may conclude that the original employment of the bulk of the cavalry on a separate line, varying in divergence according to circumstances, will place it in the best position to carry out an effective pursuit, which is not only more than half the battle but often more than of the campaign.

TRAINING CAVALRY.

The actual instruction in riding as laid down in the cavalry drill book is sound up to a certain point. The great fault is that the monotonous round of the manège is cramping both mentally and physically. Once the recruit has acquired a fairly firm seat and some knowledge of the various aids there should be much more riding in the open country.

What cavalry officer does not know that generally the best horse-men in a regiment are the officers' orderlies and those men who, in their spare time, are accustomed to exercise chargers and polo ponies or to ride animals in training on the race course? The men themselves fully realise and appreciate the improvement in their horsemanship that is brought about by this varied riding.

Ask a man who has never been beyond the walls of the riding-school to gallop half a mile across an unknown piece of ground and to bring back some account of what he has seen even half a mile ahead and to the right and left of him, and the chances are that he will either not be able to get his horse, if an old stager and a sluggard, out of a canter, or that his mount, if comparatively young and fresh, will get away with him.

Section 29, part 1 of the cavalry drill certainly lays down that the recruit is to be practised in riding and using his arms at the gallop, and that he must be gradually accustomed to the management of his horse at the highest speed, so that he may be thoroughly prepared for the practice of the attack when he joins the ranks of his squadron. Also that, before dismissal, the recruit should be taken into the open and made to ride his horse independently to given points.

Now these seven lines in the drill book are all that are vouchsafed as to the real end and object of the instruction of the recruit.

What adjutant or riding-master does not know that the inspection test is almost invariably limited to the walls of the manège with, perhaps, a little tent-pegging on the familiar runs and a little mounted combat in the ring?

There is not nearly enough of this independent riding. The dismissal test should be such as would prove the men's capacity as real horsemen and their intelligence in the field.

The note to the above section should be eliminated from the drill book and nothing in the nature of "Show rides" should be tolerated; while any time and horse flesh available should be utilized, not wasted, in intelligent field work,

Again, in a great many regiments, constant practice in the riding schools, even for the trained soldiers, is considered absolutely essential, and often as many as two days a week are devoted to this monotonous and cramping work. And why is this? Usually in order that the "rides" may show up as more or less perfect machines before the inspecting officer to the glory of their corps.

We require good horsemen, not machines, and, once a recruit has passed into the ranks, two days, or even one day, a month in the riding-school should be amply sufficient to correct any little faults of position, seat or hands into which he may possibly have fallen in the intervals.

There is not much scope for the accuracies of the manège in war, and war is the game for which the men must be trained. A man may be practically perfect in the riding-school and yet not be able to gallop a yard over fences or across a broken country.

What is it that makes most of our officers such good horsemen? Surely it is their love of hunting, pigsticking and polo. The men cannot have these advantages, but they can and should have more practical riding in the open, not only in the initial stages of their training but throughout their service.

It must be remembered that the recruit has a hard and dreary time which, while developing his muscles, his sense of discipline and his capacity for more or less mechanical accuracy, is not calculated to increase his mental faculties nor his powers of thought to any great extent, and, therefore, every endeavour should be made towards this latter end before he is passed into the ranks.

Now the items in the recruit's course of instruction are as follows :—

- | | |
|--------------------|----------------------|
| 1. Equestration. | 5. Musketry. |
| 2. Gymnastics. | 6. Troop drill. |
| 3. Foot drill. | 7. Sentry duty, etc. |
| 4. Use of weapons. | 8. School. |

Now, *mutatis mutandis*, his day is occupied thus :—

Morning riding school; stables; gymnastics (school, when dismissed gymnastics); midday foot parade; evening stables and evening parade (or *vice versa*, according to season). When dismissed foot parade; he is put through his recruit's course of musketry. When he has passed his musketry he is given further riding instruction in the evening.

Now this system of instruction is excellent as far as it goes, and both recruits and instructors have quite enough to do, but it is often carried out in a cramped, mechanical and unintelligent manner, and it is to be feared that 90 per cent. of the men do not in the least appreciate the real reason and object of all this work. They learn to think more of the means than of the end. A simple lecture by the adjutant once or twice a week instead of the midday or evening parade would do much towards enlightening the minds of the men; and for the more advanced squads, which have been dismissed foot parades, a few hours in the open devoted to practical instruction in detached duties would be most beneficial. Indeed a week in the open, before being passed into the ranks, under the senior instructor, if the adjutant could not spare the time, would conduce to a more uniform standard of intelligence throughout the regiment. It may be said that this is the work of the squadron officers, and so it is; but the development of the thinking powers of the men and the practical uniformity brought about by the system thus roughly sketched would enable the men to derive far greater and more rapid profit from the higher instruction in their squadrons.

It is not necessary to speak of gymnastics, foot drill, use of weapons, troop drill, sentry duty, etc. All these are taught well and efficiently under the present system.

Now the object of the system laid down in the cavalry drill book (part I, Introductory Remarks) for the instruction of our recruits is that "when they are placed in the ranks, they may be fully competent to enter upon their duties in the field." Now does this mean that they should be in a position to commence, and profit by, the higher training with their squadrons, or that they should be competent to take their share in all the duties of their squadron on a campaign? If the former, we may allow, with certain reservations, as mentioned above, that the object is fairly attained. If the latter, the hypothesis is absurd.

Now, as I said before, the training in the riding-school is stunting to the intelligence, and after a certain stage, ceases to develop the

riding muscles and, in the majority of cases, completely annihilates, at all events for the time being, real horsemanship; for, secure in his intimate knowledge of what will be required of him, the recruit becomes mechanical, sits his horse with the least possible exertion to his muscles and sinks his mind to the level of the tan or litter of the manège.

I do not quarrel with the initial stages in the instruction of the recruit; careful training in the riding-school is, of course, necessary; but, if carried to excess, it makes the men stale and breeds a mechanical habit, and I maintain that, as soon as a man has been promoted to the saddle, he should be taken into the country at least once a week, where his senses should be awakened, his interest aroused and his eye for ground cultivated. He should be taught to move freely across country, instructed in the art of ground scouting, taking cover, carrying verbal messages, judging distance, reconnoitring, and all the other little arts and wiles that go towards making cavalry the eyes and ears of the army; and made to feel that he is not a mere automaton with brain dulled and clogged with the dreary monotony of the riding-school, but a human being of real flesh and blood on whose commonsense and acuteness the fate of his squadron may one day depend.

Further, as soon as he has passed his recruit's course of musketry on the range, his knowledge of the tactical use of dismounted service should be developed during these outings.

The practical care of his horse will also form another important item of instruction.

Thus exercised our recruit, instead of joining his squadron laced, as it were, in a strait waistcoat, with his mind fettered by the minutiae of the riding-school, will be in a position to take his place intelligently side by side with his older comrades.

We need not take exception to the recruit's course of musketry. The present system fulfils its purpose fairly well, but, in addition to it, a little more practical training in dismounted tactics, with their horses, should be given to the men, and they should be made to understand that the sole aim and object of musketry is not the black bulls'-eye but to kill or disable their enemy without being hit or even seen themselves.

The difficulty of finding suitable ground for these exercises is the stumbling-block, but the question will be considered when dealing with the whole subject of musketry later on.

Instruction in swimming should form part of the training of all recruits. Most natives can swim, but those who cannot should, whenever possible, be taught this useful accomplishment before being passed into the ranks.

TRAINING OF THE REMOUNT.

Horses as well as men are spoilt by excessive riding-school. Horses which are too young to be ridden should be exercised daily, or at least three times a week, with the long reins as advocated by

Captain Hayes. The methods of using these reins and their advantages are so well described in his excellent book that they need not be recapitulated here.

We want our cavalry horses to be willing obedient slaves, but we also require their strength and stamina to be developed to the highest degree, for on them the success of an enterprise may often depend.

It is now more important than ever that the horse should be able to work independently from his stable companions in a thoroughly intelligent manner, and to this end he should be trained to go freely across country, to swim, to stand still when his rider has dismounted, to stand fire and to lie down.

We can hardly expect that a horse can be brought to this degree of perfection before being passed into the ranks, but a great deal might be done towards laying a sound foundation on which to base the future training in the squadron.

It should be made obligatory for all men to continue the training of their mounts; and small prizes might be offered periodically for the best trained horses; marks being allotted for the various items enumerated above and for such others as may be deemed useful and practical. This would be of more value than such competitions as "Best turned out man and horse" which generally form a portion of the programme of regimental sports.

The constant monotonous movement round the manège cramps the action of the horses and dulls whatever intellect they may possess; while, after a more or less lengthy period of this sort of work, they become like sheep and it is often difficult to make them leave the ranks smartly or to move freely except when in company.

For many months, possibly for a year or more, when the mind is most receptive and the memory most retentive, they have no opportunities for becoming accustomed to anything beyond their stables and the manège.

I consider that the riding-school is not the place in which to commence the education of the young horse.

Those horses which are fit to be ridden and not altogether too wild should be taken out into the open level country, at first in small squads. They should be formed up with considerable intervals between files and ridden quietly at a walk for some days. A day or two in the riding-school before proceeding to the trot might be an advantage, and one or two days a week might be utilized there to teach them the aids, turnings, etc.

In this way the training for the remount would be more uniform and the various requirements would be gradually worked in instead of some of the items being left to the very last and others slurred over or omitted altogether; while the action, temper and intelligence would be improved and the muscles developed.

The manège should be the place for the finishing touches, and for those animals which are most intractable.

It cannot be too strongly insisted that, for the sake of both men and horses, sections should, as far as possible, be kept intact, and that the same men and horses composing the sections in barracks or lines, should work together in the field.

I have dealt with the training of the recruit and the remount, and will now consider the further training in squadron.

We have seen that detached duties have the first place in the rôle of cavalry in the future and that shock tactics, though of the utmost importance, must be relegated to the second place.

It is impossible to divide the duties of cavalry in war into any other main headings. The broad term detached duties of course includes many subdivisions, and may be defined as the brain and senses of the cavalry, while shock tactics are the physical force.

Now having made our recruit a good rider, taught him to shoot, instructed him in the rudiments of outposts, scouting, patrolling, etc., we must turn our attention to evolving a man capable of holding his own in whatever situation he may be placed and developing his powers of thought and his intelligence to highest degree possible.

For the cavalryman to be able to perform his share in detached duties in war he must be a proficient in the following:—

1. Shooting and dismounted tactics.
2. Scouting and patrolling.
3. Outposts.
4. Practical horsemastership.

Everything else is included under these four headings.

1. Shooting and dismounted tactics under all circumstances in the field, but particularly in advance and rear guard actions and the attack and defence of posts, etc
2. Scouting and patrolling include everything a man has ever learnt, can ever learn, or that can be evolved from his intelligence. Eye for country, knowledge of what to look for and how to report it, cunning, sporting instinct, good nerves, well developed senses, staying power, cool head; all these are required to make a man a good scout.
3. Similar qualifications are required on outpost duty.
4. Knowledge, practically acquired, of what his horse can do, how to make the most of him, and how to save him.

To prepare for the cavalry battle or "Shock Tactics" the men must be trained in—

1. Drill.
2. Manœuvre.
3. The charge, including the rally and pursuit.

Now proficiency in detached duties as defined above and in shock tactics is the end to which all cavalry is supposed to be trained.

Which of these two war duties requires the larger amount of peace training?

And, on which, as a rule, has the greater amount of time and energy been expended in peace?

Surely the former requires, and would well repay, the larger share of peace training, and equally truly, in the majority of cases, the latter has hitherto received the lion's portion.

Now if these conclusions be correct we have reached the first step in the problem.

It then remains to consider the best method of continuing the training of the passed recruits and old soldiers. The training should be continuous and, instead of the present system of squadron-training, squadron leaders should have their squadrons entirely to themselves for one week once a month all the year round; with the exception of a couple of months in the cold weather set apart for regimental work, etc. The remaining squadrons not at training would perform all the necessary duties. The interval of three weeks between the trainings could be utilized for extra musketry, riding-school, drill and special training of small parties in detached duties.

It is most important that musketry should be carried on all the year round; and if the system, advocated later on, be adopted there would be no necessity for large range parties or markers, which would entirely dissipate the only objection to this plan of continuous training. It must not be understood that every day should be spent on the range; two days a week would be sufficient. The men would thus learn to shoot under different conditions of light, atmosphere and weather.

The question of the furlough season might be regarded as an objection to this system in the native cavalry, but, after all, there are only some fifteen furlough men away from the squadron and these could be given extra training during the cold weather in the three-weekly intervals. Besides furlough only comes round once in every five years or so. Men on leave need not be considered as they are only away for two months.

One day a week should be set apart for regimental work under the Commanding Officer, and Thursday should not be regarded as a holiday for the squadron in training.

It is possible that, owing to various causes, such as an excess of recruits and remounts, some squadrons may be very weak during the intervals between the trainings and it may be argued that nothing of value can be done except riding-school; but I maintain that these are the very times when individual attention can be given to the men with the greatest advantage. When such an argument as the above is adduced it proves that the thought uppermost in the mind of the objector is collective work in squadron, drill, manœuvre, execution of the charge, etc.

Now no one can deny that to train men thoroughly in all the details of detached duties requires much individual attention, and it is such attention and constant intercourse between officers and men which will improve the thinking powers of both, give to the former a better insight into the characters and capabilities of the latter, to the men more confidence in their officers and, consequently, engender a higher and more lasting mutual reliance.

Why should the early morning hour be regarded as the only possible time for work even in the hot weather? Much benefit might be derived from an occasional expedition into the country even for one night. The squadron commander might take out all his available men in the cool of the evening, carry out some previously arranged simple scheme and return by the stable hour on the following morning.

But it is really unnecessary to enter into a detailed account of all that might be done, with the exercise of a little imagination and forethought, to make the work interesting and instructive: officers only require a little encouragement and their thoughts to be turned in the right direction to enable them to embark on a system of really practical instruction, and to induce them to bring their squadrons up to a standard of "field cunning" and intelligence hitherto undreamt of.

Occasional competitions in detached duties between squadrons should be held.

MUSKETRY.

No system of musketry will ever be complete, nor will the men be efficiently prepared for war, until we have greatly increased facilities for practical musketry. The range is the place for initial training and for teaching the men the elements of marksmanship and how to handle their weapons, and nothing more. It does not teach them the real value and power of their firearms in war; in fact it gives them an erroneous conception on these points, and a false idea as to the employment of the carbine against a real enemy.

Whatever system be adopted the musketry course should be spread out over the whole year.

The carbine cannot any longer be regarded as a thing apart in the life of a cavalry man; it must be regarded as a very large and important factor in his existence. His horse will give him opportunities for an intelligent employment of his carbine and a skillful and effective use of the latter will open the way for the horse and the arme blanché.

There are certainly difficulties in the way of practical musketry owing to lack of ground, distance from cantonments, etc., but much more country could be opened up if the question were properly taken in hand. I am aware of several places near many stations in India which lend themselves to this purpose and might be utilized with great advantage; while there are very few cantonments which do not possess, within a reasonable distance, either a river, large jheel

wide stretches of open sand plains, or low hills. The methods of utilizing any of these features are so obvious that it is unnecessary to describe them.

Where the country near a cantonment is altogether too densely populated the period allotted to the annual long reconnaissance should be extended to enable the regiment to go further afield and execute a course of practical musketry combined with scouting and tactical exercises on ground previously selected by a specially detailed officer with the concurrence of the civil authorities.

Life in cantonments cramps the intelligence of officers and men and the more we can get our cavalry into the open country the better it will be prepared for war.

Even in cantonments more might be done towards making the range practices more practical. Cavalry can never separate itself entirely from its horses and much more practice is required in dismounted fire action with horses.

One of the most imperative requirements in any system of range musketry is that each man actually firing should have his own target. That is really the essence of the question and should form the basis for all further developments.

Other points are as follows :—

1. The stop butt should be increased in length and height.

The increase in length should be such as will enable at least eight full-size figure targets to be placed in line at intervals of ten feet and so permit of eight men, *i.e.*, a full section, firing simultaneously. The centre marker's butt should be abolished.

The increase in height should be such as will admit of the abolition of the raised firing points, and of the targets being elevated, in accordance with the dictates of safety, so as to be easily seen by men firing in any position on the level ground.

2. Targets should be khaki-colored life-size figures of various shapes full length, head and trunk, head and shoulders, head.

If each man has his own target he will take much more interest in his shooting.

After each practice the men should be marched up to inspect their targets and to repair them for the next section, and so on. This will obviate the necessity for the present large range parties, even the flank flagmen could be detailed from the squadron firing.

3. As said before, musketry, like training, should be carried on all the year round, and more ammunition should be allowed. Two days in each week of training might be devoted to musketry, not necessarily on the range. This would admit of the whole squadron being exercised in at least one practice during each week of training. The three weeks during which the squadron was off training could be partly utilized for repetition and extra practice for the indifferent shots. Now, supposing that each squadron had ten week's training during the year, that is on the presumption that two months in

the cold weather would be set apart for regimental work, brigade work, extended manoeuvres, long reconnaissance, etc., and that each man was allotted ten rounds a week, this would give one hundred rounds a year. Add fifty rounds for repetition, etc., and another fifty at the disposal of the Commanding Officer, and we have a total of two hundred rounds—by no means an excessive allowance where-with to keep men in thorough training.

No sportsman could ever dare to hope that he could maintain his skill even with a shot gun with less. It is not intended that the whole one hundred rounds, or anything like it, should be expended on the range, or that marksmen should even fire on the range at all, if there be facilities for enabling them to execute a practical course; but this is the least amount of ammunition that should be allotted, and if its utilization were left to the direction of commanding officers we may hope to see a vast improvement in the shooting powers of our cavalry. Twenty or thirty rounds should usually be sufficient for individual practices and the remainder should be utilized in practical exercises; advances and retirements, attack and defence of posts, convoys, etc.

4. Artificial cover should be provided on all ranges and its position frequently changed. Great stress should be laid on the proper utilization of cover and a senior officer stationed off the range might occasionally superintend this important point.

Dismounted action involves two critical moments in its employment, those of dismounting and remounting. But these are unavoidable and can only be rendered comparatively less critical by the careful and skilful placing and handling of the led horses, and by the skill and activity of the men. This question of the led horses is of the greatest importance. At present, for temporary dismounted action, we can only employ, at the most, three-quarters of the mounted force, and not even that if we provide an escort for the led horses which is usually necessary.

It might, therefore, be well to try experiments with a view to setting free a larger proportion of carbines and also to preventing stampedes among the horses. The simple plan of unbuckling the off rein and fastening it to the near stirrup or girth, sufficiently tight to cause the horse to move, if it moves at all, only on a small circle, might be a solution of the problem.

The method of fastening the lance to the saddle has always been a matter of serious difficulty, and it must be so until we can discover some form of jointed lance. The length of the lance should be reduced to 7 feet 6 inches, and if this be done the following plan is suggested. The steel butt of the lance should be reduced in size and should be very little larger than the circumference of the shaft; a turk's head stop should be fastened to the lance just above the point of balance; and a strong steel ring or stout leather loop, just large enough to admit the butt, should be attached to the off side of the saddle below the front arch. On dismounting the lance should be passed

through this ring and would be held in position by the turk's head. This would be a great saving of time. The turk's head would also have the further advantage of preventing the hand slipping on the delivery of a point. The one disadvantage of this method is that the leverage on the ring or loop caused by anything catching in the butt of the lance would occasion a breakage. But the chances of this happening are not greater than under the present system when the stirrup iron frequently becomes entangled with some part of the "equipment" of the next horse.

RECONNOITRING, SCOUTING, PATROLLING.

On detached duty the cavalryman must abide by certain general rules with which he should be thoroughly familiar, but he should not be so bound down by them or their details as to be incapable of using his commonsense and intelligence in applying his knowledge to different circumstances and in modifying such details to suit varying conditions of ground, weather, time, and the state of the enemy and his own forces.

In fact the rules should merely be learnt by the cavalrymen as a guide, and not as imposing a certain fixed line of conduct under all circumstances.

They should be assimilated with a view to the development of thinking power and the improvement of the reasoning faculties, to their being twisted and turned and bent to fit every possible eventuality, and to their being temporarily discarded altogether if circumstances render such a course necessary. This may be a somewhat dangerous doctrine to advocate as a general rule, but in the training of scouts the development of commonsense should go hand in hand with the inculcation of general principles.

Frequent failures have been brought about by both officers and men who have carried out rules to the letter and who have considered such actions amply sufficient to meet every possibility, while the exercise of a little imagination and intelligence might have meant success.

To meet this we must demand from our officers a fuller appreciation of requirements and that they should give far more individual attention to their men. To this end we require much more practical work in the open, in small parties at first, gradually increasing to the entire squadron, frequent inspections by the Commanding Officer, and periodical competitions between squadrons. Small parties of officers, non-commissioned officers and men should represent the enemy.

Our drill book supplies us with excellent rules and principles and with sound advice, and it is only necessary to avoid following them blindly to the letter to the detriment of the proper carrying out of the spirit to bring about a vast improvement in our conduct of detached duties.

We cannot better these rules and principles, but we can improve upon the system under which they are carried out. It is difficult

and unnecessary to lay down any fixed system for this purpose ; that must be left to the intelligence of officers and can only be indicated on some such lines as mentioned herein.

I have known instances of unintelligent instruction and unintelligent application of the knowledge of principles, both brought about by an absence of thought.

I will mention two cases to show my meaning.

1. I have known a whole squadron of men who could repeat absolutely word for word the eight points which every vedette should know and the eleven rules for the guidance of vedettes, given on pages 327-328 of the cavalry drill book, "*if they were asked to repeat the eight words (ath baten)*" or "*eleven words (egara baten)*", but who were utterly at sea if asked "what they ought to know when placed on vedette," or "what rules they should be guided by on vedette duty." It is perhaps a small matter, but one surely indicative of a lack of intelligence in instruction and illustrative of a tendency to teach and acquire a parrot-like proficiency at the expense of real knowledge.

2. At the commencement of a rearguard action a squadron was detached to a flank to prevent a surprise by the enemy. The main body of the rearguard was gradually forced back *and the flank squadron conformed to the movement and lost touch with the enemy* who crossed a river in considerable force by a ford out of sight of the squadron and surprised the rearguard. Comment is needless. Here was a splendid example of "how not to do it," which after all is useful and in nine cases out of ten the sum total of instruction acquirable on our field days and peace manœuvres.

To effect an improvement in the scouting of our cavalry we must commence work on the officers.

Now most officers are sportsmen in some form or other, and of all the descriptions of sport, those affording the best training for the soldier are pigsticking and big game shooting with the rifle: yet how many officers are there who possess the sporting instinct sufficiently developed, or who care to take the trouble, to pit themselves against their quarry from the first moment of the chase to the last. In most cases the whole business is managed by the shikari, keeper or gillie, and this does not tend to improve the sportsman's knowledge of wood craft or to develop his thinking and reasoning powers in any way.

Perhaps of all sportsmen the skilful trout fisher is the best versed in the details of his craft. All his senses must be alert to enable him to lure successfully the wily trout, and, having necessarily to be independent of extraneous assistance, he must rely on himself alone in all the phases of the mimic campaign.

The argument might be prolonged to show that, as the sportsman generally relies on the shikari, so the men of a squadron usually rely on their officers to the suppression of their own individuality, but it is sufficient to have digressed thus far in putting forward an illustration of the proposition that it is for the officers to think first and through their thinking to instruct their men.

Presence of mind is partly, if not wholly, the outcome of previous careful consideration of possibilities.

But practical instruction in scouting is required and officers must be the first to learn the art. The initial qualifications for a scout have been so often laid down and are so well known that it is unnecessary to repeat them, physique, eyesight, activity, intelligence, and so forth.

A certain number of men, say two, from each field troop should be selected in the first instance and put through a regular course commencing with lectures, instruction in map reading, etc., observation of natural features, elementary knowledge of the stars, marching by compass, art of concealment, method of writing reports, and system of questioning inhabitants. Regular work in the country should then follow. The art of advancing by the aid of a compass bearing should be taught and practised. The old and common fault of showing on the skyline should be sternly eradicated. When two men are scouting together, one should always ride some distance behind the other; the leader should do most of the scouting and the man in rear should carry any messages necessary; they should change places occasionally in order to save horseflesh. This of course applies equally to larger patrols.

Even when the class is dismissed the men should continue their practices periodically.

In this way the best and most intelligent men in the squadron should be gradually trained and the three weekly intervals between the regular trainings will afford the best opportunities for this. A proportion of telescopes, field glasses, compasses and watches should form part of the equipment of every squadron.

Scouting and reconnoitring by cavalry have become more difficult in proportion as the range and accuracy of firearms have increased; and the invisibility and "slimness" of the Boers in the present war have been at times almost insurmountable obstacles to the acquisition of accurate information. But it will be a long time before we shall be again opposed by such conditions as prevail in South Africa. The tactics of the Cossack, for example, will be more aggressive and he himself will be more in evidence than the wily Dutch farmer.

The power of a few well posted riflemen to hold off reconnoitring cavalry must, however, be taken into account in training our men in the art of scouting, for it has become and will remain a permanent factor in modern war.

Are there not instances of a few Boers holding in check a considerable British force, while their main body effected a comfortable and unmolested retirement with all its impedimenta?

How are our cavalry scouts to avoid being held at bay by a long thin line of sharp-shooters? How are they to pierce the veil and ascertain what lies beyond; whether the main body of the enemy is in position and intends to await attack or whether it is moving off in retreat?

They have two alternatives: a cautiously bold advance or a wide detour. Both these require time and skill and the latter horseflesh. Whatever method is adopted the individual scouts must be adepts at their trade. But a combination of the two methods is also a reasonable solution, and here again the question of the original employment of the bulk of the cavalry on a separate line of advance comes in. If so employed it would be in a position to push rapidly beyond the flank of the enemy's advanced line and ascertain the situation.

If immediately in rear of the advanced scouts its only chance would be to make a wide detour with a similar object, but this would entail a greater sacrifice of horseflesh and increased expenditure of time.

The order recently issued with regard to skirmishing seems to fill a blank to some extent. It remains to be seen how it will work in practice. It is to be presumed, however, that it only applies to comparatively small bodies of cavalry, say up to the strength of a regiment, and to the most advanced detachments of large forces of cavalry. It cannot be taken to mean that the immediate front of, say, a division, should be thus covered, as this would lead to an unnecessary dissipation of force and would be altogether superfluous in view of the protection already afforded by the advanced squadrons, patrols, scouts and ground scouts.

The order is one which should apply with equal, if not more, force to mounted infantry.

The question of ground scouts is a most important one, which has not hitherto received the attention it deserves. Innumerable instances both in war and peace manœuvres might be quoted to show what fatal results a lack of good ground scouting has brought about. This is essentially a point in which individual instruction on the part of officers is required, and this should be imparted to a few men at a time, the officer riding with each man separately and showing him exactly what to do and what is required. In this connection another important point may be emphasised.

No man can lead any body of cavalry satisfactorily unless he is some distance away from it. The tendency is for officers commanding to ride much too near their commands. By keeping well ahead or on the exposed flank the officer can, to some extent, see the nature of the ground for himself and can manœuvre his force, if a small one, by single, or, if a large one, by means of gallopers.

Outposts.—Our cavalry requires more practice in this important subject. It is not sufficient for a squadron commander to put out an outpost line and then go round the vedettes asking the stereotyped question from the drill book. We must have constant exercises in passing an outpost line by night and day and in preventing such a passage.

The squadron commander should frequently view his outpost line from the side of the supposed enemy to see how the vedettes conceal themselves, etc. The enemy should always be represented by a few men. There is a great tendency to cut short all our practical exercises just when real instruction is beginning to take the place of mere routine.

DRILL AND MANŒUVRE.

Little need be said on the subject of drill and manœuvre. The formations laid down in the drill book adequately meet requirements, but the greatest possible simplicity consistent with mobility is the object to be kept in view. Junior officers should be allowed more opportunities for handling and manœuvring their regiments over difficult ground.

FIELD DAYS.

It cannot be denied that our system of field days is not good training for our cavalry, but it is difficult to see how this can be improved. Its action is cramped and produces erroneous impressions. The opposing forces are too near one another from the start and the cavalry comes into contact and often collision before either side has had an opportunity for the display of ingenuity or field cunning.

Certain artificial boundaries are frequently imposed and crops put a limit on manœuvring. The country is almost always well known, and each side knows with more or less certainty what the action of the other will be. Consequently the tendency is to slur over the most important details and to bring the day's proceedings to a head with the least possible delay. I can offer two suggestions:

(1) Work against a skeleton enemy to which is attached a comparatively large contingent of thoroughly competent umpires. All arms could be easily represented in the skeleton enemy each man, or every two men, of which might represent a squadron, company, battalion, battery, etc., as circumstances required.

(2) One force might always be sent out (with sealed orders) the morning of the previous day which should bivouac some considerable distance, say 8 or 10 miles at least, from cantonments. A time for the commencement of operations should be fixed by the umpire in chief, and the special ideas should be given to officers commanding at this hour. No unnecessary limitations should be imposed and the exercise should be worked out to its logical conclusion. Such a scheme would admit of the cavalry being able to perform its legitimate duties and afford it ample scope for reconnaissance, and so forth.

An efficient and large-minded umpire staff is the greatest necessity.

CAMPS OF EXERCISE.

It is a question whether the large cavalry concentration camps usually held in India are of any real practical value as far as the training is concerned. They certainly bring together several corps from different parts of the country and offer opportunities to officers and men to gain some insight into the characteristics and working of different regiments, and they afford some practice to senior officers in handling large bodies of cavalry. But the duration and work are limited by the questions of expense, transport, supply and water.



The conditions, seldom, if ever, approach those of active service, and neither officers nor men acquire any conception of the hardships they would have to undergo or of the difficulties they would have to encounter in real war.

The approximation of the conditions of peace manœuvres to those of actual warfare is one of the most difficult of our military problems, and this is only to be expected until we reduce to the lowest possible degree the restriction imposed by expense and time, and dissipate the hankerings after any semblance of display.

In the first place it is strange, and unfortunate for the cavalry, that practical operations are not frequently carried out between garrisons stationed comparatively near one another; as, for instance Meerut and Umballa, Jullunder and Lahore, Rawal Pindi and Peshawar, and many others. It is open to question whether the elaborate preparations and arrangements usually made before any sort of camp, or extended manœuvres, do not defeat their own ends; they certainly destroy any semblance of reality there may be in the business.

The date on which the operations will take place is known some time in advance, and the general and special ideas are usually framed to give the least possible inconvenience to all concerned, while they are generally full of unnecessary restrictions and limitations.

What is there to prevent the officers commanding two stations from quietly arranging that they will meet as enemies on a certain date. They might leave their respective stations on the same date so as to give each force approximately the same amount of ground to cover and there the restrictions should end. The want of means would prevent the railway being utilized except for spies, intelligence officers and small patrols, though advantage might be taken of it for the transport of supplies.

It must be remembered that all this is special pleading on behalf of the cavalry. What cavalry officer would not hail with delight the opportunities thus afforded for the execution of his legitimate rôle in warfare. There would be ample scope for the display of all the qualities necessary in a good cavalry leader for he would be no longer cramped and fettered by the irksome limitations of the ordinary field day or the restricted operations of a concentration camp.

The whole operation should be conducted under service conditions and carried through to its logical conclusion.

HORSEMASTERSHIP.

The greatest disadvantage under which cavalry and mounted infantry labour on active service is that occasioned by the enormous casualties among the horses and ponies, brought about, it must be admitted, largely by preventable causes. The system of horse management obtaining in our regiments is excellent and well suited to peace-time, and calculated to turn out horses pleasing to the eye as regards coat and condition generally. It errs, however, rather on the side of excessive pampering, and sometimes, it cannot be denied, it discloses a tendency towards the cult of the fat horse.

The first cause which operates on the active service casualty list is to be found in the lack of hard condition of the horses, which is the result of inadequate work and exercise and possibly food, in peacetime. It is a well-known fact that the horses which did the best work in South Africa, in spite of the long voyage, were those which were drawn from omnibuses, etc., and had been in constant steady work up to the moment of their embarkation.

Sorebacks are probably the most prolific source of casualties, and on this point the attention of all cavalry officers has been engaged for years, with, it must be confessed, indifferent results.

Many causes combine to bring about the direful results so often seen even during peace manœuvres. Weight carried, want of care, fitting of saddlery, falling off in condition of the horses, and the riding of the men are the causes to which sorebacks are commonly attributed, and in a broad sense one or more of these are generally to blame.

But unfortunately, we cannot get at the roots of these evils, for it was in the very birth of cavalry that these roots germinated and in its continued existence that they are fostered. We can, therefore, only cut them as low as possible and prevent them from spreading. We can reduce the dead weight carried by the horses and perhaps make some improvements in the adjustment of the absolutely necessary remainder, we can exercise more care, and, possibly, by severer measures limit the casualties caused by the riding of the men and we can, perhaps, under certain circumstances, obviate the falling off in condition of the horses by taking some of the best colonial methods as guides.

But of all these questions that conneted with the fitting of saddlery is the most difficult. The questions respecting the weight carried and the fitting of saddlery come properly under the head of "equipment," but these and the other causes are so interwoven that they may with advantage be all discussed here.

The higher the burden of the horse is raised above his centre of gravity the greater will be the leverage and oscillation and, consequently, the greater the strain on the bearing parts.

Great stress has hitherto been laid on the necessity for a free current of air between the saddle and the back of the horse, but it is doubtful whether the advantages attendant upon this are a sufficient set off against the disadvantages resulting from the increased elevation of the burden. It is an undoubted fact that the nearer the rider is to his horse the better it is for both.

Now if we are to preserve the efficiency of our cavalry to the greatest possible extent, we must recognize the necessity for relegating a portion of the dead weight to some other means of conveyance. If this be done the logical conclusion follows that we can reduce the weight of the saddle, dispense with the heavy leather wallets, numnah and high cantle and bring the rider nearer to his horse by giving him a saddle more on the lines of that in use in the colonies or of mounted officers of infantry.

The carbine and the lance, as carried at present, are undoubtedly great factors in the production of sorebacks. The carbine should assuredly be carried slung on the rider's back. This certainly brings its weight above the centre of gravity, but is compensated for by the abolition of the carbine bucket with its constant drag on the off side and its friction against the ribs.

There is no doubt that when "carrying" the lance the men bear heavily upon it to the detriment of the proper adjustment and equilibrium of the saddle and therefore it should, whenever possible, be carried "slung" on either arm alternately.

The question regarding care of horseflesh can only be met by practical experience, and this can only be gained in peace-time by constant exercises in the open country under so-called service conditions.

Officers and men are accustomed to find all things necessary for their horses ready to hand, grain, forage, and bedding regularly provided, and the slightest ailment or wound attended to by the veterinary surgeon or salutri.

The men are habituated to await the orders of officers or non-commissioned officers upon every detail and consequently lose all power and inclination to think for themselves.

The evils resultant upon such a system manifest themselves on active service.

The only possible way of improving this is to combine the inculcation of a really practical horsemastership with other instruction whenever any body of men, however small, is taken out into the country for any description of training. The excellent method of grazing the horses on arrival in camp or bivouac, as employed by colonials, might be practised on every possible occasion and would undoubtedly ensure the better condition of the horses. Horses turned out to graze will soon dry themselves by rolling, and the relaxation and freedom thus afforded will have infinitely better effects than an hour's grooming at the standings; while the men, with the exception of a small horseguard, will be free to get their own food and rest.

Conditions of course vary in different countries and climates and such a system cannot always be carried out, but its advantages are so great that it should be practised whenever possible.

Men should be accustomed to dismounting and easing their horses whenever possible.

CAVALRY EQUIPMENT.

In considering the question of equipment the points to be borne in mind are lightness and serviceability.

It is not necessary to enter very deeply into details nor to examine and discuss the weight of every article. The equipment tables of both British and Cavalry are open to anyone who cares to study

the subject. It will be sufficient for the purpose to state the approximate average weight carried by the horses of each branch and then to consider how we can reduce this weight without affecting serviceability, and to make such suggestions as appear to be feasible.

The average weight carried on active service by the British Cavalry (Lancer) horse is 281 lbs. 10 oz. or 20st. 1 lb. 1 oz. That carried by the Native Cavalry (Lancer) horse under similar conditions is 237 lbs. 8 oz. or 16st. 13 lbs. 8 oz.

Now these weights are undoubtedly excessive if we wish to preserve the utility of our cavalry and derive the fullest possible advantage from its action.

In the first place we must find out what articles we can, with safety, remove from the burden of the horse, find the total weight per squadron of such articles and then determine by what means they can be carried under squadron arrangements to enable the squadron to be as independent and self-contained as possible.

In the second place, we must endeavour to reduce the weight of the absolutely necessary remainder carried by the horse.

The following articles can be removed from the horse :—

					lbs. oz.
Walleys	...	...	...	...	3 3
Shoecase	...	...	...	...	0 12½
Carbine bucket	...	...	...	...	2 12
Sword and scabbard (in Lancer regiments)	...	...	...	...	3 6
Numnah	...	...	...	...	2 10½
Beastplate	...	...	...	...	1 5
Chain reins	...	...	...	...	1 6
Shoulder chains	...	...	...	...	0 8½
Shoes and nails	...	...	...	...	0 14
					<hr/>
Total				...	16 13½
					<hr/>

Now with the exception of the latter item shoes and nails all the above can be discarded absolutely.

The amount of weight then for which carriage must be provided is limited to one pound per man roughly. One pack horse per squadron will thus be amply sufficient for the purpose ; but it would be advisable to allot one pack horse to each troop, *viz.*, four per squadron, by which any extra articles such as blankets, ropes, pegs, etc., could be carried.

As regards the remaining articles of equipment the following reductions might be made :—

	lbs.	oz.
Saddle (by using colonial or mounted infantry pattern) ...	1	8
Bit and bridoon (by substituting a pelham, with plain bar or port according to mouth of horse) ...	0	8
Lance (reduced in length) ...	0	8
Belt and slings (by substituting the bandolier with loop and strap for slinging carbine and web waist belt for holding waterbottle and haversack in position) ...	0	8
Cape (abolished) ...	3	0
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Total ...	6	0
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We thus have a total reduction of 22 lbs. 13½ oz. From this we must deduct some 2½ to 3 lbs. for leather saddle-bags as a substitute for the wallets.

In any case we have a reduction of over a stone in dead weight which will materially tend to increase mobility.

The method of fixing the lance point to the shaft as usually employed in the native cavalry is radically wrong. The long flanges extending from the base of the socket up the shaft are entirely unnecessary and the three rivets which hold them to the shaft and form studs for affixing the pennon are a source of great weakness. The lance points should be put on in the same way as the points are fixed to hog spears, and the pennon should be laced on or fastened by spring clips.

MOUNTED INFANTRY.

The question of expense alone prohibits the formation and maintenance of a corps of mounted infantry.

We need hardly consider the objection so often urged that such a corps would ape and degenerate into inferior cavalry. If mounted on ponies, armed with the rifle and bayonet only, trained solely as mobile infantry and made to realize that its value was mainly tactical, it would have no incentive to emulate cavalry at the expense of its own advantage.

But the question may be dismissed once and for all on the score of expense, and with the creation in India of the new system of training schools we may rest assured that we shall always find ready to hand a fairly adequate force of mounted infantry sufficiently trained to take its place in any field army that may be mobilised.

The supply of mounts requires serious consideration and it is a question whether it would not be advisable to register all suitable trained country-bred ponies in India (Australians and Arabs would be

too expensive) as is done in England. Surely contracts with even large native dealers for the supply of ponies on mobilisation scarcely meet the case. The ponies would be quite untrained and what would be worse, quite unsuited in condition to enter upon a campaign.

Sir Frederick Middleton, in the *United Service Magazine*, defines mounted infantry thus :

" They should be infantry soldiers provided with a suitable means of locomotion, which they should take care of, and use for the sole purpose of proceeding rapidly to the place where they are required to perform their duties as infantry soldiers, not hesitating, if necessary, to sacrifice the said means of locomotion."

A recent French writer, whose name I have been unable to discover, would attach to each battalion of infantry a certain number of animals obtained by requisition which could be increased, reduced or abandoned altogether according to circumstances.

The latter suggestion offers certain advantages but does not commend itself as adaptable to our Indian requirements.

The suggestion as to the sacrifice of the means of locomotion is a dangerous one and, if carried out, at once puts a limit on the utility of mounted infantry.

I would rather think that the ideal mounted infantry is that which is capable of twice or thrice the mobility of ordinary infantry while maintaining the latter's characteristics, and embarrassed by the minimum of consideration and care for its means of locomotion.

By mobility must be understood not merely rapid movement but sustained movement.

In putting this ideal before us the object is to find a description of locomotion which meets these wants. Failing this we must content ourselves with trying to solve the problem as to how the means of locomotion determined upon can be maintained in a serviceable condition with the least possible detriment to tactical requirements.

In the training of mounted infantry its proper rôle must never be lost sight of. In this branch we require good infantry first and mobility afterwards, for the latter will not be of much avail if the infantry which it succeeds in placing at the decisive point is of inferior quality.

Thus for mounted infantry we require in the first instance :—

1. First class shots.
2. Men of great power of endurance.
3. Men of superior intelligence.
4. Men of great activity.
5. Light weights.

Then we must train such men to be capable riders and good horsemasters.

Now, in default of an allotment of ponies to every battalion of infantry, the period of training at the schools, together with the annual practice in riding, must be accepted as sufficient for the purposes of equitation ; and, if a really practical system of horsemastership be

taught at the schools, we must admit that the question is fairly met. But,—and it is to be feared it is a large But,—there is no adequate provision for training in the field. The men may be excellent infantry and good riders — and high efficiency in manœuvring is not required,—but constant practice in dismounted service with ponies and in operations in combination with other arms is absolutely necessary.

The training in musketry should be of the most practical description, and on the lines of that already advocated for cavalry.

It would be a great advantage if the trained mounted infantrymen in every regiment were exercised for a week once a month or once every two months all the year round under specially selected officers also trained in mounted infantry work. This would, to some extent, fill the void occasioned by the lack of ponies. The training should be of a special light infantry character ; outposts, scouting, skirmishing, etc., combined with practical musketry.

The actual mounted drill of mounted infantry should be of the simplest and should be limited to advancing and retiring in single rank in close and extended order, and moving in sections (fours), etc., as required.

The greatest possible amount of practice in rapidly dismounting, and remounting and in the conduct of the led ponies is essential.

As mounted infantry may have occasionally to act, to some extent, for cavalry in the latter's absence, and will also be utilised in covering the immediate front of the main army, it is important that it should be thoroughly trained in scouting and patrolling, and that it should be provided with a certain number of field glasses and compasses, while as many men as possible should be taught rough sketching. In fact its training in detached duties should be conducted as far as practicable on the lines already laid down for cavalry.

Words of command should be few and simple, and signals, assisted by the whistle, should be employed whenever possible. Most of the words of command in the present mounted infantry regulations are far too lengthy and cumbersome.

The *raison d'être* of mounted infantry is its superior mobility as compared with ordinary infantry and its ponies or other means of locomotion are the cause of this superiority. It is therefore necessary that its training in the management and care of its means of locomotion should be very thorough. The groundwork of such training can be laid at the schools, but it is only by constant work in the open that any real practical knowledge of the art can be acquired ; hence every opportunity which conduces to this end should be eagerly sought.

A certain number of men in each class should be instructed in farriery, not necessarily during the class, but at such times as may be convenient after they rejoin their regiments.

MOUNTED INFANTRY EQUIPMENT.

The equipment of mounted infantry should differ as little as possible from that of ordinary infantry.

When we examine the points of difference we find that they are limited, with the exception of breeches and drawers and perhaps one or two minor details, to the pony equipment and furniture.

The breeches should be of stout Bedford cord, laced below the knee strapped and with continuations.

The khaki frock should be of loose make with four large pockets, horn or leather buttons and double at the elbows. This applies equally to ordinary infantry on service.

Two shoulder bandoliers with flaps and one belt bandolier with frog for bayonet. One shoulder bandolier should be provided at the back with a stout leather loop large enough to admit the fore end of the rifle, and with a small strap, with buckle or stud, to pass round the small of the butt. This would enable the ordinary rifle sling to be discarded and would obviate the discomfort and inconvenience of another strap across the chest.

The rifle should always be carried in the hand by advanced parties, and by the whole force when in the vicinity of the enemy.

The ordinary putties should be retained. Much has been written about their advantages and disadvantages as compared with leggings, but it is not necessary to discuss them here. They are warmer and less expensive and can be utilised for several other purposes if required. They should, however, be put on from the knee downwards and the tapes fastened at ankle; this will prevent the tapes from wearing.

No spurs: these are out of place for men who have to fight solely as infantry.

Sword bayonet.

The above are the most important items of the equipment of the men. Into the details of the remainder it is unnecessary to enter.

Underclothing, water-bottle, knife, greatcoat, blanket, waterproof sheet, etc., etc., should all be identical with the ordinary infantry equipment.

There is one point, however, which requires consideration. The importance of cover in modern warfare is so great that it seems imperative that the men should be provided with, and carry, some form of entrenching tool. I offer the suggestion, to some inventive genius, that the picketting peg might be utilised as the shaft of a small spade blade which could be carried in one of the saddle-bags.

PONY FURNITURE.

Pony sized mounted infantry saddle with stuffed panels. No numnah. Blanket used in lieu thereof.

Leather saddle-bags in place of wallets.

Head collar and headpiece in one.

Ninth lancer bit with single rein to be used in upper or lower slot according to mouth of pony.

Two iron picketting pegs in leather pockets sewn in front of saddle flaps.

Camel's hair nosebag and hay-net on off and near side respectively above saddle-bags.

Greatcoat strapped in front of saddle.

Knee halter carried round pony's neck and fastened to D in front of saddle. It should be long enough to use as a picketting rope if required.

In order to minimise as far as possible the amount of dead weight carried by the ponies an ekka, driven by a farrier, should be attached to each section. An ekka will carry between 250 lbs. and 300 lbs. beside the driver over good roads, and about half that amount over bad or hill roads. Therefore, by this arrangement, some ten pounds could be removed from each pony in the section. The shoes and nails should certainly be carried on the ekkas, and other articles at the discretion of the company commander. These ekkas would be extremely useful for carrying the saddlery of any ponies that died or were killed, while they could be employed, on occasion, for the conveyance of wounded men.

THE DEFENCE.

BY BRIGADIER-GENERAL F. H. PLOWDEN, COMMANDING BELGAUM DISTRICT.

Lecture delivered at Belgaum on 14th June, 1902.

[I am indebted to Sir Reginald Hart's treatise on the Art of War, and to Captain Edward's work on the Defence for much of the matter contained in this paper.—
F. H. P.]

Gentlemen,—We are told on good authority that Satan in a tight corner can call upon the scriptures in support of his arguments. The tactician with a hobby shares with Satan the privilege of having at hand the almost limitless traditions of war from which to choose examples to prove his pet theory. As an instance in point I will quote from the writings of two distinguished men: the late Professor Bloch who devoted ten years of his life to a monumental work designed to prove that war is no longer possible chiefly on account of the rapid improvement in armament, and Colonel Maude whose articles on the evolution of infantry in the United Service Magazine you have no doubt read with interest. Each advances a directly opposite theory and each draws upon the history of the same campaigns to prove his point.

I will quote a passage from each.

Mr. de Bloch, in a lecture delivered before the members of the United Service Institution, quotes the Prussian general, Muller, as maintaining that "in order to avoid complete extermination soldiers cannot attack otherwise than in loose formation, and avoiding as far as possible the sight of the enemy; they cannot approach except by creeping, and hiding behind inequalities of the ground, digging themselves into it like moles." Mr. de Bloch then proceeds to give his own opinion as follows: "If we judge by the experiences of the South African war not a single assailant who marched to the attack in manœuvre formation would arrive alive at the trenches which they are expected to assault."

Here is what Colonel Maude says arguing on the other side. "The whole investigation proves to my mind conclusively what I have always maintained, *viz.*, that of all battle formations the line is the most economical of human life and the one best adopted to meet all emergencies." He refers to the line too deep, shoulder to shoulder.

My reason for introducing these preliminary remarks is, that you may not accept any theory or opinion I may express as carrying

authority, or as being worthy to supplant any opposite ideas you may have formed. I can quote history and so can you. My opinion is no better than yours—provided that the fundamental rules of tactics are observed by both. I ask you to listen with an open mind and to remember that we *must* march with the times, but must not be bound to the theories of faddists or the vapourings of public speakers and writers in the English Press. These gentry have already done much mischief by misdirecting public opinion which has, I fear, reacted upon those amongst our officers who prefer to take their cue from this source rather than from those who are responsible to the nation for the proper education and training of the army.

I have still a word to say before entering upon the subject of my lecture. Both you and I have frequently heard unthinking persons—sometimes officers who should know better—remark with an air of self-satisfied conviction that “the days of cavalry are over,” “I pity the Germans if they ever attack us in their close formation,” “What’s the use of musketry; you can never see anything to shoot at,” “Drill is no use now; one man is as good as another if he can ride and shoot a bit.” These thoughtless assertions are hardly worth the trouble of disproving, but I would impress upon those who, arguing from the so-called lessons of the war, and guided by the gentlemen of the Press at home, have convinced themselves of the truth of these assertions, that our army cannot base its organization, its training, or its action in the field, on the results of a single war either in South Africa or elsewhere. This war has been almost unique in the particular tactics of the enemy, his extraordinary mobility, the peculiar features of the country, and above all in the fact that it is the first occasion on which the most modern armament has been brought into play. These abnormal conditions, especially the last, have forced us to modify our tactics and organization in South Africa to meet the case. Moreover methods considered efficient before have now been proved by the Boers to be far inferior to their own, and in these respects we rightly follow their example, but do not for a moment imagine that we are about to abolish our cavalry and infantry and become an army of mounted infantry, or that we are to abandon all training beyond a little target practice and riding school and leave discipline to take care of itself. Far from it. Were we to follow these counsels of the thoughtless and ignorant would-be reformer, we should soon cease to exist as a nation. Our army was called upon to meet the Sudanese warriors yesterday; we are fighting the Boer to-day; but to-morrow we may be called upon to face the hordes of one or more continental armies, trained and organised to the highest pitch of efficiency and led by generals familiar with every phase of the present war and who are as capable of reaping advantage from its lessons as our own. The struggle for our very existence as a nation will, if it takes place, be fought upon English ground, and simultaneously, perhaps, on the plains and mountains of Afghanistan or Southern Persia. Are we to meet these mighty forces with an army of men masquerading as Boers! God forbid!

The lecture or rather the few remarks I propose to place before you have reference to defensive operations.

The defensive is an inferior rôle, and the army that adopts it starts at a moral disadvantage, which can only be compensated for by subsequent vigorous offensive action at the opportune moment. Nevertheless one or other side must adopt it, and though often barren of results it may attain ultimate success if conducted by a master in the art. The defensive is a tradition with us. It was by taking the offensive that we drove the French from the Peninsula, but nearly every battle we fought was a defensive one. The occasions when a British army acting on the defensive has been worsted are almost unknown. Fortunately, unlike some continental nations, our national characteristics enable us to sustain the more energetic rôle of the offensive as well. We can storm a breach at Badajos or stand to be decimated at Albuera.

The defence gives the weaker side the great advantage of compensation for its numerical inferiority. Such a force acts wisely in adopting this method, waiting its opportunity to assume the opposite one. In war with Asiatics or savages however, it is a rule that admits of no exception that the offensive or the defensive combined with immediate offensive should be adopted.

For the successful conduct of a defensive action it is most essential that the choice of ground should lie with the defender. He should avoid being rushed into fighting on unsuitable ground. If the staff are competent and furnish reports on the defensive positions within the area of operations and tools and labour are provided beforehand, the commander should be in a position to fight when and where it suits him and not at the will of his opponent. The rearguard commander will find ample opportunity for the exercise of his skill in drawing the enemy on to a strongly defended position occupied by the main body.

I do not propose to go into the question as to which side has the advantage, the attack or the defence. In our army, speaking generally and in view of our recent experience, the advantage is held to lie with the defence. On the continent the reverse opinion is held, and, as I observed at the commencement of this lecture, either side can back their opinion from the history of war to their heart's content. From the present war alone examples may be cited to prove either view, as we know only too well the Boers frequently repulsed our attacks and even bayonet assaults when acting on the defensive. In attack on the other hand they, without supports, without bayonets, without the aid of artillery, by sheer good skirmishing and snaphooting sometimes defeated our troops posted in good positions. It seems to me that the determining factor is not numerical superiority entirely in the attack nor the advantages of ground and entrenchments in the defence, but rather the personal elements of endurance, determination, courage, and discipline, on the part of the men.

Rivers have always played an important part in war, and are generally used as an obstacle in the defence; their defence should be active and not passive. Where the latter method has been adopted the enemy has nearly always effected a crossing. There are numberless

instances of successful crossings of rivers when their use has been limited to a mere barrier between the opposing forces. By a passive river defence I mean watching the banks, concentration at bridges and fords, destruction of boats, etc. By an active defence is meant the vigorous counter-attack upon the enemy who has already crossed before he has time or space to deploy. For this purpose troops must be concentrated so as to move rapidly to the point of passage.

Enclosed ground in front of a position, such as fields with hedges, copses, gardens, vineyards, farms and plantations have lost much of their advantage to the defending side. Formerly when attacks were delivered in close columns or in line shoulder to shoulder the disruption and separation of portions were a distinct gain to the defenders. Now, however, that more extended formation and less control appear to be the rule their effect has diminished. In any circumstances the ground over which the attack must advance either against the front or flanks of a position should always be clear for several hundred yards in order to give the rifle its full effect.

Salients in a position are to be avoided as being liable to enfilade and for the same reason a position whose general formation is convex is faulty. Moreover a position of this shape if successfully attacked on one side, renders the retirement of the troops holding the other side difficult and dangerous. A concave position has the advantage of enveloping an attack on its centre by its projecting flanks. These flanks, however, are most liable to attack and must, therefore, be of the strongest. On the whole a more or less straight position is the best.

Now that frontal attacks are proved to be difficult and costly, and in view of the pronounced preference in continental armies for the attack, the flanks will become the critical points of defensive positions. This being so, the protection and safeguarding of the flanks becomes the chief business of the commander. If the frontal attack is acknowledged to be an undertaking of very doubtful success and resort is had to a turning movement in the expectation that on the flanks the same difficulties will not present themselves, what better method can be devised than that of forcing upon your enemy a second frontal attack with all its dangers by making the flank as strong in all respects as the front. To accomplish this there must be strong and very mobile reserves told off especially for the flanks and the ground itself should possess natural obstacles, not impassable ones—and artificial defences. Positions offering these essential qualities are rare. One or other of the flanks will probably be found weak. If this is so, strong independent detachments should be echeloned in rear of the defective flank to deliver a vigorous counter-stroke on the enemy's flank should he assail your own. The commander should be given a very free hand and should possess the quality of strong initiative. Impassable obstacles on the flanks are an impediment to the defender as well as to the attacker and hamper movement.

Secrecy and concealment of all previous preparation are important elements of success in defensive action. Work should be conducted

at night and behind a screen of outposts, both nature and art being called upon in making the defences invisible, especially those of the artillery.

It may be well here to say a word on the action of artillery in the defence. If anything the recent war has thrown more light on the proper use of this arm than on any other, and a modification of artillery tactics, both in attack and defence, appears imperative. The artillery duel—the overture to the battle—has hitherto been looked upon as equally essential to the assault—the finale. However it is doubtful whether anything but a very marked superiority of guns—an almost impossible contingency—will justify the artillery of the defence in accepting the duel. They have the advantage of firing at their opponents in the open, while they themselves are or should be concealed. To relinquish this advantage as might be the case by opening fire early in the fight they run the risk of becoming impotent at the very time their assistance is most required. Dispersion is almost as much a necessity as concealment and is the chief aid to it. An artillery reserve to fall back on in the final stages is most necessary and such a reserve is best placed where it can bring an enfilading fire to bear on the advancing infantry. The excellent results obtained by the use of heavy artillery in the present war will probably ensure its adoption by all armies. Their longer range combined with the difficulty of movement will place them further in rear than the field guns. They should be able to move as easily though of necessity more slowly than the latter. Their concealment is also of equal importance. The protection of guns by some sort of artificial or natural defence is a vastly important matter and both officers and men should rid themselves of the exploded idea that such a course is derogatory and contrary to their traditions.

Villages, farms, and buildings more or less enclosed by walls, often present themselves in front of the position or on its flanks. The enemy is bound to attack them if occupied and once captured they form a covered base for a further advance. Their advantage to the defenders lies in their power of forcing the enemy to deploy early and at a distance, but with high explosive shell villages and buildings can easily be rendered untenable, and high explosives are already in use in continental armies. These advanced posts should, I think, be rarely held for any length of time, but having accomplished their object in making the enemy deploy they may well be abandoned and converted into shell traps, which is what they are—for the benefit of the enemy. Much the same remarks may apply to woods similarly situated.

A feature of the defence which seems about to undergo a considerable modification in our army is the proportion of men per yard. Here history supplies examples completely at variance. Defensive battles have been won with only one or two men per yard of front and, on the other hand, have been lost with as many as twenty. In Inkerman is an example of the former; Chancellorsville of the latter. I cannot help thinking that it is mainly a question of men. Soldiers of

the right material, imbued with a dogged determination and with a fair share of the chances of war in their favour, are after all the chief element of victory whether in the attack or in the defence. But the present war has forced us to recognise that such is the power of the magazine rifle that a much greater extension in the occupation of a position is admissible and advisable as it renders the flanks more difficult to turn and makes all combination and mutual support in the widely extended attack most difficult if not impossible. Those who took part in Lord Roberts' advance on Pretoria will tell you that control was lost and co-operation ceased over the twenty miles of front occupied by his army.

It is now, or shortly will be, an established principle in our army that a proportion of two men per yard is sufficient for defensive purposes. I wish here to introduce a word of warning. The continental opinion on this matter is contrary to ours. They count their armies by thousands where we count hundreds, they look to enormous masses of men being launched in successive lines in close order against the point of attack, covered by a storm of high explosive shell from quick-firing guns brought close up to the infantry.

The French, as you may know, have, in selecting a quick-firing field gun, sacrificed mobility, lightness, and concealment, to rapidity of fire and protection of the gun detachments, with the object of being able to push their guns to the front with the infantry and then open the terrific fire we read of, covering their advance up to the last moment, while the infantry themselves in lines upon lines open an overwhelming magazine fire. Naturally they decline to attenuate their line of defence to meet this onslaught. I regret I have not the pen of a Napier to describe what this hellish storm of iron will be like, but I fancy it will require men of more than ordinary nerve to expose their heads to return the fire. Have any of you ever felt any inclination to put your head outside the markers' butt when independent firing takes place on the range. I think not. It may be urged in support of the attenuated defence that where the assault takes place more men would be forthcoming collected from the reserves and from other parts of the line. Certainly; but you must remember that at two men per yard an army of fifty thousand men will occupy about 14 miles and collecting reinforcements at any point is a long process. Moreover when you have got them there, are they to be exposed in the open to the sort of fire they may expect from a continental army. You cannot be sure where the assault will take place, nor can you entrench 14 miles of front with tiers on tiers of trenches unless you have months to work in and unlimited civil labour. Certainly in South Africa we failed, over and over again, in forcing the Boer trenches by direct attack and their thin but well protected line easily kept us at bay, but were they ever subjected to the continental method of attack? If they had been we may well ask would they have succeeded as they did with us. On two occasions—Peiter's Hill and Bergandal—our artillery fired on the Boer position right up to the moment of assault by our infantry. The Boers kept their heads under and wouldn't face it.

and we captured the positions. These are the only two instances I have read of in which any approach to the continental method was resorted to. The point of the whole question is this. We shall probably never have another Boer war, but if the signs of the times are to be trusted, we may find ourselves involved in a struggle for our very existence with one or more continental powers, with little or no warning. Is it safe to oppose them by two men per yard? I cannot say, but it appears to me a matter for very serious consideration.

As you know the defence should be divided into sections by units, and the commander made responsible for his section. This responsibility should I think—although opinions differ on the subject—extend to the observation and outpost line. It lies with the commander of the entire force to determine the extent and limits of the position, whether the defence be active or passive, the direction and timing of the counter-attack, the composition of and place of the central reserves and those for flank protection, and other important matters, but the actual measures for the defence of each section should be undertaken by the local commander in accordance with the general intention of the chief. He also fixes the positions of local reinforcements.

We now arrive at the question of ground. Tradition, experience and instinct incline us, when attacked, to meet our enemy on high ground of some sort. The cat prefers to meet the hostile advances of the terrier from the branch of a tree, and the sportsman those of the tiger from a machan or a howdah. This propensity to place yourself above your enemy, so far as military operations are concerned, has certain advantages, but these advantages are limited. They are supposed to lie in the view afforded of the enemy's movements, in what is miscalled, 'command of fire,' in the exhausting and retarding effect to the attack of mounting a steep slope, in the contrary effect to the defence, in the facility it affords of occupying more than one tier of fire, and in the concealment afforded to movements and concentrations in rear. Command of view depends as much on the flatness and open nature of the surrounding country as on the height. Should the surrounding country be undulating and wooded as is usually the case in Europe, this advantage may disappear entirely. Moreover an efficient intelligence, and local information supplied by the cavalry may well take the place of actual sight with regard to the so-called command of fire, which if the word command signifies superiority is no command at all, it is obvious that a selection of ground that deprives the gun and rifle of their most effective attribute, *vis*, their low trajectory must be a bad one.

To my mind the best of all positions is the ridge in contradistinction to the hill. A ridge gently rising from the level without a defined crest, high enough to give the artillery some view of a general concave contour and with as little dead ground as possible. Because the Boers have made successful use of high hills in the war many jump to the conclusion that they must afford the best positions. Of all positions the isolated hill or one dominating others on a lower level

is most to be avoided. A foreign officer with the Boers remarks as follows: "A hill is generally a disadvantage, otherwise it is only of use as a cover for reserve ammunition wagons and horses. The chief danger of a hill or line of hills is that it offers a splendid target for artillery fire. Nothing is more tempting to bombard than a hill, a wood, or cluster of houses. A hill is also unsuitable as an artillery position as the guns lose their sweeping effect. High ground should only be selected for an artillery position when the enemy cannot be seen from any other." He might have added that the crest line is the most dangerous place in a dangerous situation. We require no better instance of the danger of occupying an isolated hill than that afforded by Spionkop. It was never assaulted yet had to be abandoned. I confess it is not easy to distinguish when a ridge ceases to be a ridge and becomes a hill; I think, speaking generally, a hill or line of hills may be said to be such as dominates the surrounding country to a considerable height, and shows a marked crest against the sky, while a ridge is of inconsiderable height and carries a broad and ill defined crest. In favour of the hill it may be urged that by placing the firing line at the foot of the slopes the loss of fire effect is compensated for. Although by no means condemning such procedure, which under certain conditions may be advantageous, I must point out that a firing line so placed cannot be reinforced except at a very early stage and then in full view of the opposing force, and cannot be withdrawn without the greatest danger. If the crest of a hill or highest position of a ridge be occupied, its superior situation no doubt will facilitate local counter-strokes, but in a counter-attack on a large scale, one that is intended to determine the issue of the battle, this superiority is of little effect. It would not only be most hazardous, but a grave error in tactics to push forward, as in Peninsular days, a firing line down the slopes of the position to deliver a counter-attack. However strongly reinforced by the local supports it could never meet the attack on equal terms, prolonged and attenuated as it would be by its spreading in many detached and disconnected portions over miles of frontage.

This brings us to the consideration of counter-attacks. A passive defence, as I have already remarked, is of little value except in rear-guard actions where delay is the primary object. The soul of the defence is the counter-attack. It is one of the most difficult operations and depends for success on the moment chosen for its delivery, its suddenness and the adequate co-operation of its parts. Fresh troops should be employed from the general reserve under the immediate orders of the chief, preliminary manœuvres should be dispensed with, and its advance should be rapid, unexpected and pushed with a determination to stop at nothing till the ranks cross bayonets, and not to slacken before the enemy is in full retreat. In old days the counter-attack consisted generally of an advance of the entire fighting line supported by the reserves at the moment the assault had been checked, or sometimes before the attack had developed and deployment was still in progress. This method is, I

think, impossible now—in our army at all events—if the system of occupying a very extended front with a thin line is to be adopted. There would be strength nowhere and the attenuated fighting line of the defence would stand no chance against the thicker lines of the attack where once they left their cover. Moreover, assuming the defence to cover several miles, the difficulty of communication would preclude simultaneous action. These attacks will more probably take place from a flank of the defence, or from one or more gaps in the line of defence which the extended front will necessitate. When the counter-attack has palpably begun to tell and signs of retreat are apparent, perhaps the fighting line of the defence may take the initiative in co-operating towards a decisive result by a forward movement, but only when success seems fairly assured. Should a repulse take place a half won victory might turn into a defeat.

I have now a few words to say on those essential adjuncts without which the defence may be compared to a one armed man fighting a trained pugilist. I allude to the pick and shovel, factors in war only second to the gun and rifle. The spade and pick enabled the Turks to repulse the overwhelming legions of Russia at Plevna. Colenso, Maggersfontein and Paardeberg are more recent examples of the value of the spade in war. In the Franco-Prussian war the French on the defensive rarely made use of entrenchments, but when they did so they invariably repulsed the Prussian attacks. As an instance we may quote the battle of Gravelotte in which General Frossard entrenched his section of the defence which was never shaken, while at St. Privat on the right of the position which was not entrenched the Prussians were successful in their attack notwithstanding that the position was of great natural strength. To return to Plevna. Here the Turks had constructed redoubts in three groups with bombproof head cover. In the third attempt to capture these the Russian batteries of 108 guns, including 20 siege guns, commenced their bombardment in the early morning of 7th September and did not cease till 3 P.M. on 11th September—5 days. The forts were then assaulted by 60,000 infantry. They succeeded in taking one which they were compelled to abandon and they lost nearly 20,000 men. They did not try again.

It is a regrettable but unfortunately an established fact that our men do not take kindly to spade work. In the present war many lives lost and many reverses on a small scale must be attributed to the absence of the simplest form of artificial defence. The failure of the Boers at Wagon Hill was due more to the half-hearted nature of the attack than to the defences, which should have been completed and were not. Had it been possible to entrench Spion Kop in the night there need have been no retirement. From my own experience I have no hesitation in saying that if the soldier were left to himself he would prefer to run the risk of losing his life to digging in hard ground after a long march. It may be that the importance

of entrenching has not been brought home to our men as it was to the Russians after Plevna. For the remainder of the campaign every Russian infantry soldier willingly carried an entrenching tool and what is more never failed to use it when not actually marching. Entrenching has not been sufficiently practised in our army, for which neglect we officers must partly bear the blame, but I am thankful to say very much more attention is now being given to this essential part of training. Hitherto 50 picks and 50 shovels has been considered sufficient equipment for a regiment of British infantry on active service in India. However the inadequacy of this number has been brought to notice and we may soon expect to see it trebled I trust. Training in digging is as essential as training in hill climbing or any other form of muscular exertion. A man's task takes four hours to complete and no soldier can keep up the strain for this length of time unless the muscles of the back, arms, and thighs are trained to bear it. It does not of course take four hours to make a shelter trench, such as we have hitherto been accustomed to but the shelter trench must now be replaced by a much more efficient means of cover. Trenches must be deep and narrow with the interior slope perpendicular, to lessen the effect of shrapnel and rifle bullets descending at a dangerous angle. They must no longer be shallow and broad, and whenever time admits they should give protection to the head. Head cover makes all the difference. You have most of you seen at artillery camps how chatties or dummies representing heads above a parapet are riddled with shrapnel. But place them below the parapet with sandbag head cover and you will see a very different result. The following remarks by an infantry officer are taken from the annual report on **Artillery Camps** in the Madras Command. He says: "All three batteries only got six hits on the infantry in Boer trenches, we did not see these trenches, but I think if they were well constructed as I believe they were, it is surprising that *any* hits were obtained." It appears to me that in the absence of effective cover the supposed advantages of the defence entirely disappear.

You are now all more or less familiar with the various forms of trench used by the Boers. Their chief characteristics are the trace, which is never continuous in a straight line but zig-zag to avoid enfilade and give flanking fire, their short length, their distance apart, it being recognized that gaps of a few hundred yards are immaterial, the traverses left every few feet to localize shell bursts, their narrow profile which in many cases did not exceed 18 inches, the head cover which was always provided when possible, their admirable concealment, and the interior excavations. These excavations are only possible in clayey soil. Sometimes there was no parapet at all, the earth being scattered or concealed in depressions.

This was the method employed in quite open ground. You will find this sort of trench invisible at twenty yards distance, and you can picture to yourself the pleasant surprise a line of them would afford to attacking infantry who imagine their enemy to be still a mile or two distant. A most cunning device used with this class of trench was that of making dummy parapets at a distance with the excavated earth to draw fire. The old method of showing a line of heads above the trench is useless and dangerous. The head need only be raised to fire. During the artillery preparation the position of your trenches would only be given away by showing heads, while the artillery will probably be out of rifle range, so it appears far more sensible to keep down until the infantry attack develops. Concealment is a necessity in selecting the position of trenches and in their construction. Anything bearing the appearance of a trench will attract every gun within range, hence every device and artifice must be used to assimilate them to their surroundings—long grass, boulders, bushes, or anything that will render them inconspicuous. Perhaps the best method of all, but which is a laborious one, is that mentioned above of having no parapet and using the dug-out earth to make dummies.

The question of the best position for trenches is a vexed one. Assuming the ground to be more or less elevated, if they are placed on forward slopes or at the foot they cannot, as I have already pointed out, be reinforced or abandoned; on the other hand, if they are at the top both gun and rifle lose much of their effect. I think the solution lies in the shape a section of the ground presents. If the section is generally concave the trenches may be placed high; if convex they will be more effective lower down and the difficulty of reinforcement and retirement may by good fortune be overcome by means of inter-communication between trenches, and carrying one or both ends round the salients when they might be entered from the rear. Where concealment is easy I do not see why trenches should not be placed both at the top and bottom of a slope, but not of course in the same line of fire. I must here put in a word of warning against a principle which you may think I am advocating, but which I am far from doing, *vis.*, that a position should be converted by means of elaborate entrenchments into an impregnable fortress. Such positions always fall in the end and their occupation for a length of time should only be undertaken for the most urgent reasons of policy or strategy. Plevna is a case in point. It was impregnable to assault, but was held so long that it was eventually cut off and starved out.

I have now said all I have to say, though only the fringe of the subject has been touched. I have now only to recall to your memories those points which I wish to submit for your consideration, *vis.*, to copy only what is good in the Boer defensive tactics and that which is suitable to our organization, and to the primary duty our army has to perform of defending our shores and of guarding our frontiers

against a European power, not to ridicule the methods of the continent till the test of war has proved them wrong, not to measure your power of defence by the height of hills, to disperse and conceal your guns, to make the counter-attack the main feature of the defence, to look on your pick and shovel as trusty friends that will give you victory if you use them well, to hide your trenches by every device and never omit your head cover.

TOMMY CORNSTALK AND THE EMPIRE, ETC.

BY CAPTAIN E. DAWSON, RANGOON VOLUNTEER RIFLES.

I have had something to say upon a former occasion, in an article published in this Journal, on the subject of Imperial defence, with special reference to the part that might be played therein by the auxiliary, and especially the colonial, military forces of the Empire. By the light of recent events in South Africa, some of my remarks about the military potentialities of the colonies now appear almost prophetic. It has been demonstrated, for all the world to see, that the Empire possesses, in the states of Australia, a fertile source of military strength, for not only has it been shown that Australia and New Zealand produce men in plenty who are admirable material for making soldiers, but also that the populations of those countries have developed a strong military spirit. Furthermore, we know now that these our fellow-subjects have learnt the great lesson that the Empire is one and indivisible, that an attack upon one part of it is an attack upon all, and that the best defence of any given part is the beating of the enemy wherever he may be. The crew of a British ship engaging an enemy's vessel in the North Pacific might very well be doing as much to frustrate an invasion of England as if they fought within sight of Dover Cliffs, and, rightly considered, the Victorian or New Zealander who carries a rifle on the African veldt is as truly helping to keep war away from his own home as if he served a gun at Port Phillip Heads or land torpedoes in the harbour of Wellington. To the student of war and of Imperial problems, the one fact may seem as obvious as the other, but whole peoples are not often swift to apprehend even the obvious, and the Australasians are to be congratulated upon their rapid grasp of this great principle not less than upon the readiness and generosity with which they have acted upon it.

"Actions," says the proverb, "speak louder than words," and the action of the Australasian Governments in sending batch after batch of troops to the war is a proof, such as comes home to the mind of the nation at large, not only of patriotism, but of an enlightened state of public opinion, for in no country in the world, not even in England, does the administration more accurately reflect the popular will than in Australia and New Zealand. But words, also, have their value; they are the records of past action and the indices which show the paths of action in the future. The paper entitled "Australian Help for India, Value of her Mounted Infantry," by Mr. G. C. Craig, of Sydney, in the April issue of this Journal, is very welcome as an indication of Australian thought on a subject of immense importance. Nothing could be more gratifying, or more encouraging to those who hope to see the building of a solid structure of Imperial defence (a

thing so bound up with Federation as to be almost identical with it), than to know that thinking men in Australia are watching the course of events upon the Indian frontier, not as distant spectators merely, but with the interest which comes of feeling that their citizenship may one day give them a hand to play in the game.

What is the real value of the Australasian soldier, and what special quality differentiates him from the "average frontier British soldier born in the United Kingdom?"

As one having some personal knowledge of Australian life, I shall try to answer these questions. I have never lived in New Zealand or Tasmania, but, allowance being made for differences in climate and physical geography, the conditions of life in those regions bear a general resemblance to those prevailing on the Australian continent.

The three staple industries of Australasia are agriculture, grazing or stock raising, and mining. Manufactures exist of course, but not at present on any large scale. Hence, the number of people working on the land and dwelling outside towns and cities is much greater, in proportion to the total population, than is the case in Great Britain. Horses are cheap, and the work on sheep and cattle runs, and also on the large farms, necessitates a great deal of riding. Stations and farms are widely scattered, and in many parts riding is the only available means of travelling. Most boys of fifteen or so have horses of their own, and have been accustomed to ride to schools. It results, not that Australians as such can ride better than other people, but that the percentage of men and boys who cannot ride at all is a very low one. Indeed, it is negligible, for even town-bred youths have their country and bush experiences. In most houses there are guns and rifles, the game-laws are liberal and laxly worked (private game-preserving is almost unknown) and the young Australian is often able to shoot before he is fourteen.

These things count for much, but they are not all. Shooting and riding cover only part of the ground. The mounted infantryman must be able to do these things, but to be an ideal soldier, he needs other qualities as well. "On service," as a Canadian sergeant once said to me, "you may perhaps have a 'scrap' once a week, but you've got to *live* all the time."

There you have it; "to live all the time." The phrase (it seems to me) may pass for a brief summary of the Art of War, or as much of it as is demanded of the man in the ranks. A man may be brave, he may be a King's prizeman at the shooting, a proficient at all kinds of drill, a trained athlete, and an accomplished horseman to boot; if he have not so much knowledge and dexterity as will make him, upon occasion, independent of the commissariat, the company cook and the convenience of civilised life, the odds are heavy that he will sooner or later cease to be useful and will become an encumbrance. At any rate, no one having any practical knowledge of war will deny that the possessor of such knowledge is very much more valuable as a soldier than if he had it not.

The great bulk of the rank and file of the British army are town-bred ; that is to say, they are accustomed to a highly artificial state of life. Their training as soldiers, if it causes any change, increases the artificiality of their environment. At stated hours, the food of the recruit appears before him. He is taught to be clean, and to that end he has but to turn a tap. He is clothed and sheltered and transported by smooth-running machinery. When a regiment is moved from one station to another, it is sent like so much costly and perishable merchandise in bulk. Responsibility is shared among scores of officers ; the work and forethought of hundreds of railway officials, mess and forage contractors, and the like, go to the transaction, and if by the appointed time the whole machine is fitted into its new place, the tale complete as per invoice, each man fed and sober, the colonel is a happy man. The soldier is never alone, never thrown upon his own resources. Under the conditions of existence of modern armies in peace-time, it seems inevitable that these things should be so. You cannot take a thousand men upon Salisbury Plain, serve out strips of dried meat, and tell them to scatter and concentrate at York or Colchester.

With the stress of war, all is changed. In the mobilization schemes prepared by the general staffs of Berlin and Paris, it may be possible to carry into the very fire-zone the automatic working of the enormous military machine in its utmost ramifications, to allot to each cartridge, loaf, boot, and bandage its appointment in time and space. In such theatres of war as they contemplate, it may be possible to provide beforehand for almost every conceivable happening. But our armies have to get their fighting done (and long may it be so) in convenient places beyond sea, where railways are but one remove from roads, and the roads are no improvement at all upon cattle-tracks. A few miles beyond the end of the workable rails, at any rate, secretion by the boot-and-shelter producing organs becomes fitful. Mounted infantry must soon leave the apparatus, and the fabric to which it belongs, behind them altogether. Then it is that the knowledge of the arts of wild life, of the thousand little shifts, expedients, and contrivances that town-bred moderns have forgotten but that kept their roving ancestors alive, gives to its possessor a superiority over the soldier who has it not that can scarcely be over-estimated. Perhaps I seem to exaggerate ; some, at least, of the trifles of which I speak are known to every man who has ever had a boating trip up the Thames, not to mention a shikar expedition in India. It may seem incredible, for instance, that there should be soldiers who, not to speak of cooking, cannot make a fire, yet these eyes have seen such soldiers. Lads who have always seen water come out of a tap will go thirsty before, of their own accord, they will lower a water-bottle into a well at the end of a pair of putties, and there are those who waste many a candle-end ere they discover the most practical virtue of a bayonet ; its adaptability for use as a candlestick. To go beyond trifles, in Africa one heard of men living on biscuit though live mutton was served out, because there was no butcher handy, and never a man who could kill and dress a sheep.

Of course, a few weeks (or, at the outside, months) of campaigning will teach any man the more necessary of these simple arts. In the

of entrenching has not been brought home to our men, as was to the Russians after Plevna. For the remainder of the campaign every Russian infantry soldier willingly carried an entrenching tool and what is more never failed to use it when not actually marching. Entrenching has not been so generally practised in our army, for which neglect we officers must partly bear the blame, but I am thankful to say very much more attention is now being given to this essential part of training. Hitherto 50 picks and 50 shovels has been considered sufficient equipment for a regiment of British infantry on active service in India. However the inadequacy of this number has been brought to notice and we are soon expected to see it doubled I trust. Training in digging is as essential as training in hill climbing or any other form of physical exertion. A man took four hours to complete and no soldier could keep up the strain for this length of time unless the muscles of the back, arms, and thighs are trained to bear it. It does not take four hours to make a shelter trench such as we have seen, but it has been a custom to do this sort of trenching now being replaced by a much more efficient means of cover. Trenches must be made very narrow with the interior slope perpendicular, to lessen the effect of a snapnet and rifle bullets descending at a steep angle. They must no longer be shallow and broad, and whenever possible they should give protection to the head. Head cover must be the difference. You have most of course that artillery cover which is clothed or dunnies covered, but there is also a protection of the head with straw. But if the trench is very deep the protection will be head cover and you will see a very different result. The following remarks by an infantry officer are taken from the annual report of the **Artillery Camps** in the Madras Command. He says: "At five batteries only got six hits on the infantry in Boer trenches, we did not see these trenches, but I think if they were well constructed as I believe they were, it is surprising that any hits were obtained. It is a years to me that in the absence of effective cover the tactical advantages of the defence entirely disappear."

You are now all more or less familiar with the various forms of trench used by the Boers. Their chief characteristics are a trench which is never continuous in a straight line but zigzag to avoid enfilade and give flank fire, their short length, their cover, and short it being recognized that gaps of a few hundred yards are immaterial, the traverses left every few feet to locate such as the narrow profile which in many cases did not exceed 18 inches, the head cover which was always provided when possible, the admirable concealment, and the intercom excavations. These excavations are only possible in clay soil. Sometimes there was no parapet at all, the earth being scattered or concealed in depressions

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meantime, however, he must suffer for their lack. The diseases which, like watchful enemies, dog the trail of an army, attack first the exhausted, the ill-fed, and the careless, even as do the tribesmen who hover upon the rear of columns in our frontier wars. How much life and money would have been saved in South Africa, how much more quickly our troops could have moved upon their objectives, had the soldiers been able to live like the Boers, who know how to thrive where Englishmen (newly arrived ones, at least) would starve.

Now, the primal necessities of Man are the same in all countries. The youth who has learnt to supply these necessities by using his own brain and his own two hands on the plains of Australia or among the mountains of New Zealand is able to apply the knowledge anywhere. And the habit makes him adaptable to circumstances, so that local differences of climate and natural environment matter but little. Of course, among the snows of Canadian winters there are needs for the support of life and the minimising of discomfort which a Canadian will supply more readily than anyone else. He has tradition for his aid. But the Bushman from any other part of the world will learn the local expedients quicker, and will therefore fare better under any hardships, than will the townsman.

War is an ancient and a primitive business, and those who have followed ancient and primitive pursuits, such as agriculture, the herding of animals, or hunting (War's great image), are best fitted by nature to meet the chances and necessities of war. The fighting men of to-day can kill each other at greater distances and in more various ways than those of old, and their leaders have modern ways of moving them about. But nothing can eliminate the human equation, and between the general miles away and the place where the killing begins there remains a zone wherein personal craft and cunning, physical endurance, and the old activities and dexterities of Man become dominant and, it may be, "decisive."

It is easy to say that these are truisms, and they are so, but we need sometimes to be reminded of truisms. The obvious suffers unmerited neglect. The "Aids to Scouting" is a collection of truisms, compiled by a soldier who found that in war, and in schooling men for war, truisms were lost sight of. Since I wrote the first 1,500 words of this article, I have had the advantage of reading, in the "Pioneer," a summary of the report of General C. J. Burnett, C. B., on the annual manœuvres at Poona. I take the freedom to quote a few extracts.

The general "wished to test the initiatory powers of officers and non-commissioned officers engaged, to force all ranks to think for themselves, to learn to read a map, to move by the stars, to look after their own food and water, and, above all, not to adhere blindly to the traditions of the barrack-square. He expresses surprise at the difficulty officers found in the first few days in getting their correct position. . ."

It would be absurd to say that Australasians are better able to think for themselves than other people; nevertheless it is a fact that

a man who has often been alone in desert places, with something important (whether his dinner or his life) depending on his own alertness does think for himself more and to better purpose than another who has been trained to depend on others. (Truism.)

And it is a good thing to be able to read a map, and anyone who has ever been to school ought to have this ability in a greater or less degree. But I have seen bushmen who had never looked at a map and who could take a line across "new country," and ride from twenty to a hundred miles and strike the point they wanted. A compass would make it easier, but they could manage without it. Let any one who thinks this an easy feat go to some place without roads and try it, say, for ten miles. I speak of old experienced bushmen, but most Australasian men, ay and girls, bred in the bush, can be depended upon not to lose themselves in described country, and to hold any given course by day or night for a few miles at least. The reason is, that in their country human lives so often depend upon "finding the way" that the homing instinct, once, I suppose, common to men as to other animals, has been re-developed. Nature can be trusted to supply a demand of this sort in a generation or two, sometimes in less.

By "looking after their own food and water," I take it the general means—

1. Cooking, and making the best of, what they had.
2. Husbanding their food, so as not to be incapacitated by hunger.
3. Economizing their water.

On all these points the young British soldier, so far as I have seen, is astonishingly ignorant and careless. Of his cooking, it is scarcely possible to speak in decorous terms, and the worst of it is, he thinks it does not matter. Everyone who has been on a tiring march with troops has seen the men throw away food sooner than carry it. Water is not thrown away, but the bottles are often emptied in the first five or six miles, after which the owners must go thirsty or sponge upon their more careful comrades, or fall out. In this matter of water, at least, Australians show more care. Accustomed to travelling in a dry country, they habitually drink (water) little and seldom. A good deal has been said about preventing soldiers from drinking polluted water. One military-medical authority suggested that the drinking of water not authoritatively approved should be made a military crime. There spoke the doctrinaire: *le voilà nu!* You might make it punishable with pressing to death and hanging in chains, and men would still do it. Neither fear nor discipline, nor any other non-material force, yet invented, will keep thirsty men, or other animals, from water in the sight of plenty. But the Australasian is often saved by the tea-habit. Such is his passion for tea that he contrives to make it in the most difficult circumstances, and though overmuch tea is doubtless injurious, it is less so than foul water.

The general was not so well inspired, and was perhaps a little mastered by a phrase, when he wrote that he wished his men "not to adhere blindly to the traditions of the barrack-square." I assume that he meant company and battalion drill, as taught by the authorised manuals. It is the easiest thing to teach, and the soldier learns it first. If he is not to adhere to it, it should not be taught. We know that he is taught it primarily as a means to an end; that end being the habit of instant and *unthinking* obedience, and, secondarily, to make him show up smartly on ceremonial occasions. If there is no time to teach him anything else, and he is accordingly left under the impression that it is all a soldier has to learn, I venture to say it ought to be abolished. It should not be necessary to tell him, at a moderately advanced stage of his career, that he is not to perform barrack-square evolutions (or extension motions, or a hornpipe) when he is engaged in the totally different and, it is to be hoped, separately taught business of feeling for the enemy, or concealing his presence from the enemy's scouts. If it be found that company and battalion drill as now taught fail to accomplish their objects, or if those objects be incompatible with successful work under modern conditions, or if these exercises cast such a spell upon the soldier that he is constrained at all times to behave as if he were in the barrack-square, by all means let them be done away with. To teach a man a thing and then tell him not to adhere to it, blindly or otherwise, seems inconsistent. (I suppose "blindly" means "without consideration," and it is of the essence of such drill that it should be performed without consideration.)

The summary goes on to say:—

"The men were cautioned against advertising their exact position by challenging at the top of their voices. The general considers that 'it is a matter for grave consideration whether or not the whole system of sentry-go should not (*sic*) be altered for some more practical form of keeping guard.' He himself gives one instance where he carefully instructed a sentry, who declared he understood, but five minutes later was challenging a party approaching his post in the orthodox style."

Now, this does not prove that the orthodox style is wrong. What it does prove is, first, that the sentry was a stupid man, and, secondly, that he had been instructed in only one "style." There should be, nay there are, two: the ceremonial and the active service. I, for my part, know the British private too well to believe that he is incapable of being taught that sentry-work as performed at the Horse-Guards, a Royal Palace, or the Tower, is a different thing altogether from the work of the alert watchman over a sleeping camp in hostile country. The one is part of a picturesque ritual, a seemly parade of the symbols of fidelity and power; in the other, the sentry's duty is to see and hear all he can without being himself seen or heard. But indeed, I suspect the general was here enlivening his report with a quiet joke. I suspect he knows, better than I, that in fact the altera-

tion of the system of sentry-go needs not to be made the subject for a solemn enquiry by a board; that when the game of war is played in earnest, an exceedingly "practical form of keeping guard" is adopted by the very stolid persons who, lacking the dramatic sense, and profoundly disapproving of "manœuvres," show, in the peaceful neighbourhood of Poona, such flagrant disregard of the rules of Kriegspiel.

I ask pardon for my discursiveness. I cannot better explain the points of difference between the British and the Australasian-born soldier than by quoting the final sentences of the summary of General Burnett's report, which (I repeat) I did not see until after I had written the first third of this article:

"He regrets that the power of observation of the British soldier is not what it should be, which he considers to be due to the training he receives, inasmuch as" (the italics are mine) "*everything is done for him, and he is never compelled to think for himself*... the soldiers should be able to look after themselves in the field, to cook, to utilise fuel, to be able (*sic*) to patch and darn and to extemporise a foot-covering if they cannot cobble. He adds: 'worn out boots have led to disastrous delays in military operations, a want of knowledge of cookery and how and what to cook has upset an otherwise efficient army; the neglect of carrying out the old adage that "a stitch in time saves nine" has sent men to hospital who would never have gone there at all. Men must be taught to make the best of everything under the most adverse circumstances, to extemporise shelter, and to become handy men all round.'"

The summary ends with the remark: "There is certainly a ring of practicality about the report, which is by no means invariably present in documents of this kind." Somewhat faint praise; it might well have been said that the report is admirable for its candour and its workmanlike spirit.

The Australasian soldier is not perfect. He is, for instance, seldom as good a horsemaster as he is a horseman. This is because of the cheapness of horses in his native land. On sheep and cattle runs, and even when travelling with stock, men often neglect to care for their horses, and sometimes unnecessarily "take the last pound out of them," knowing that they can "round up," or take from the "mob" fresh ones next day.

Mr. J. H. M. Abbott, a New South Welshman has written apparently a very pleasant and interesting book about the South African war, called "Tommy Cornstalk."* The nickname, "Cornstalk," is given in Australia to the natives of the senior colony, as Victorians are called "Gumsuckers," and Queenslanders "Banana Boys." Mr. Abbott says:—

"He" (Tommy Cornstalk) "has known no riding-school; he has not studied the care of the horse in a little red book. It

* I have not read it yet, only some extracts in a review.

is only by a painful effort that he learns to roll his coat correctly over his wallets in order that he may give his mount a sore wither. He would prefer to carry it in a fashion less uncomfortable for his horse. He is feeble in the salute. He hardly ever knows when to turn out the guard. His concerted movements lack precision. He resents exclusiveness, even in a General Officer . . . But nevertheless he is a highly trained man of war."

Mr. Abbott is not quite just to his people. It is quite true that, for practical purposes, the average Australian needs no riding-school. But he would often be the better soldier if he *had* "studied the care of the horse in a little red book." Little red books contain much that is sound and useful. The correct rolling of a coat over the wallets does not cause sore withers. Unless the horse be abnormally shaped, a sore wither goes some way to prove that the coat is *not* correctly packed. The salute can be learnt in five minutes, and a good soldier takes a pride in *not* being "feeble" in this act of homage to his service and his sovereign's commission. To "resent exclusiveness" in a general officer would be merely silly, and Tommy Cornstalk, I am sure, is no such fool.

Writers like Mr. Abbott, holding the opinion that some of the things in "little red books" are antiquated and not conducive to efficiency, are in danger of hastily condemning (as he, by implication does here) the whole of a system, to the evolution of which has gone a good deal of expert and careful thought, which has undergone many remodellings, and which does, after all, move more or less with the times. Cromwell, Marlborough, Moore, Wellington, and Hamley were men who knew something of their business; they were trained in the system, and the system, as developed from time to time under their hands, has had some success in its day. Some sort of books we must have, (for though some excellent fighting men do without them, we cannot all be Boers or Afridis,) and the book that Tommy Cornstalk would have to produce if he were appointed commander-in-chief this week might be quite humorously obsolete by this time next year.

Upon the whole, however, it may be admitted that the military virtues of the Australasian soldier are such that he would gain very little by undergoing in its entirety the training which is given to the British regular, and it might easily happen that the small gain would be accompanied by a lessening of the distinctive qualities that make him what he is, so that the net result would be a loss. It is my opinion that in the one branch, mounted infantry, that best suits their idiosyncracies, these men, after a few weeks under good officers who understand them, are, for war, equal, if not superior, to any other troops in the world. They are especially useful in hot climates, and in difficult wild country such as that which forms the marches of India, they would be as invaluable as they have been in South Africa.

It is always a mistake to belittle the part played in the affairs of men and nations by sentiment. Among us, the word has somehow

fallen into disrepute, and it is used to denote, not (as sentiment truly is) one of the important springs of human conduct and action, but barren emotion, like that which Kipling condemned when he wrote :

"Your strong men cheered in their millions, while your striplings went to the war."

The view is a false one, and it may be said with confidence that sentiment in its true meaning has had much to do with the relations of the Australasian peoples, governments, and troops to the South African war, and will have much to do with their response to the military needs of the empire in the future. But there are other motive powers. I have mentioned in the beginning of this article the intelligence and thoroughness with which Australasia has recognised the unity of Imperial interests. And as in the case of states, so with individuals, it is no derogation to say that in voluntarily submitting themselves to the sacrifices and risks of war they are actuated by other motives beside that of patriotism, pure and simple. The British soldier is patriotic, very fortunately, for were it not so we should be worse off than we are in the matter of recruiting for our ill paid army. But our having an army at all is not due to patriotism alone; there are men in every country who are fond of an adventurous life, of distant travel, of the kind of excitement which a military life is supposed to afford. These, or some of them, would enlist even if there were no pay at all. Others embark on a military career because their fathers were soldiers before them; others to escape domestic troubles; others to gratify some passing whim or fancy. Some recruits are gentlemen, who for one reason or another have missed the more regular means of obtaining commissions, and a few knowing, steady fellows look forward to appointments on volunteer instructional staffs or some other of the several secondary careers open to soldiers. I have not exhausted the list of motives; the solitary one which I cannot conceive as operating is the passion of avarice.

But, how many and various soever may be the temptations offered by the soldier's life to young men in the United Kingdom, we may be sure that they are equally operative upon young men in Australia. If a recruiting agency had been opened, say ten years ago, in Australia, it would have succeeded in getting some recruits, and these would have been none the worse for belonging to the category of those who would "soldier" for no pay at all. For to Australians the pay of the British soldier seems so little more than nothing as to be almost negligible. (The troopers of the mounted police get seven shillings a day on joining, and I have seen a meeting of the "Unemployed" indignantly reject a Government offer of relief work at five shillings a day.)

But, owing to the distance from home and the insular basis of our military system, this recruiting-ground has remained untouched, and the Australasian youth determined upon a military career has had a choice between joining the "Permanent Artillery" and finding his way to England. The Permanent Artillery offers few attractions, for its men are always stationary in forts, and have little chance of promotion or of active service. Despite the difficulty at

the outset (not of course, an insuperable one). I should be prepared to find a small percentage of Australasians in an army census.

Now, however, that England's need and wise statesmanship have shown that there is work for them in the defence of the empire, we may expect to find Australasians eagerly offering themselves for service in any important war, and especially for such an expedition as that imagined by Mr. Craig. The idea of a landing at Bushire and a rapid march to strike the enemy in flank seems (granting British sea supremacy) not less capable of realization than the landing of Carrington's Bushmen at Beira and their march to Buluwayo, and a raid of this kind would exactly suit the spirit and capabilities of these troops. But a few thousand Australasian horsemen landed at any point from which they could be quickly railed to the base of active operation would be of immense value, and in some quite conceivable circumstances they might "save India."

SOME PRINCIPLES OF MODERN TACTICS.*

BY MAJOR T. E. COMPTON, D. A. A. GENERAL FOR INSTRUCTION.

Tactics is not a subject easily exhausted. Books can be written on each branch of it : for example Captain Edwards' comparatively bulky book on "The Defence;" and long essays may be written on each subdivision; *i.e.*, on outposts, advanced guards, rear guards, etc. It is broad and far-reaching in its general application, a variety of considerations affecting procedure, so that the same operation may be carried out quite differently in one part of the world than in another. Ground and armament are the chief factors of this variation; but the Boers have shown us that an army of mounted men can for a time almost revolutionize some details of tactics; *e.g.*, the number of men to the yard in the defence and the employment of cavalry *quâ* cavalry.

But although undoubtedly a subject of great complexity in its details, requiring more of judgment, commonsense and experience for the solution of its problems than of book knowledge; yet there remain principles which cannot be violated without sound and sufficient reason or disaster will follow, and which must be first learnt and appreciated before they can be intelligently applied. Many of these principles are susceptible of modification and are constantly being so modified as the years go by, the chief factor of this modification being armament. Some few are fixed and immutable: one great principle; for example, which should govern the aims of all strategy and of all grand tactics is incapable of change, *viz.*, that the secret of signal success in war is superiority of force at the decisive point.

Before I attempt to categorise some of the principles of modern tactics, I propose to run through the recognised guiding rules for the employment of the three arms combined in each of the main subdivisions into which tactics may be divided.

These are six, *viz.*:—

1. Reconnoitring.
2. Advanced guard.
3. Outposts.
4. Rearguard.
5. The attack of a position.
6. The defence of a position.

There are of course many other operations, *e.g.*, forcing or defending the passage of a river or defile, convoy fighting, flank guards. There are moreover distinct and separate branches of tactics such as night

* *Note.*—This paper was written before the publication of the new Drill Books and Combined Tactics. A few notes have now been added where reference to the latest official works seemed necessary.

operations and hill warfare. But the fact only illustrates the complexity of the subject, and as these operations must all be more or less modifications of the six subdivisions stated above I will not go beyond these.

I may here in parenthesis remark that the three main divisions of tactics, as I understand it, are reconnaissance and measures of security, the attack and the defence ; and their main subdivisions are the six I have enumerated.

The recognised guiding rules for the employment of the three arms combined in each of these operations should be learnt and understood as a sort of groundwork for the proper appreciation of principles, attention to which it has been found alone leads to sustained success, as ignorance or wilful violation of them has too often brought about disaster.

We will now take these subdivisions in order.

RECONNOITRING.

The mass of the work of reconnoitring must always fall upon the mounted troops, which henceforward I shall term cavalry. A great change has come over the official view of the functions of the cavalry arm ; and lately in South Africa even cavalry officers have, it is said, advocated the bayonet either in addition to or in place of the sword or lance. Although it is true we are not always going to fight Boers, it is clear that in our service the rifle is to become the mounted soldier's principal weapon. Where then is the difference between the functions of cavalry proper, mounted infantry or Imperial Yeomanry ? All alike in future must shoot well and thoroughly understand horse keeping and the use of the sword or half the cost of their maintenance will be wasted.*

In reconnoitring the other arms co-operate. *Infantry* as a support on occasion ; and *Horse Artillery*, marching with the main body of the cavalry as part of the cavalry division or brigade, at hand to shatter an enemy's mounted attack, to support dismounted action or to keep down the fire of the enemy's guns.

THE ADVANCED GUARD.

Cavalry reconnoitres on a broad front, some portion however remaining at the head of the vanguard. In action it protects the exposed flank or flanks or threatens those of the enemy.

Infantry of the vanguard supports the cavalry advance and protects the deployment of the guns in action. This portion is in turn supported by the infantry of the main guard who will act as circumstances require, either to hold the ground for the occupation of the main body, or if only dealing with a rearguard to force it to retire so that the advance may continue.

Artillery reconnoitres the enemy's position with fire or forces his column to deploy and extend, or, as the case may require, prepares and supports the advance of the infantry of the main guard.

* *Note.*—With the issue of *Combined Training* the place of Mounted Infantry, etc., with Cavalry has been more defined and a distinction must therefore be drawn between them. The present system of training of Mounted Infantry moreover is certainly economical in peace time.

OUTPOSTS.

The combination of *cavalry* and *infantry* as outposts in civilised warfare is all important. Cavalry by day and infantry by night is the general rule. The infantry picquets and supports being bivouacked together during the day on the line of resistance, while the cavalry find the line of observation, say a couple of miles to the front.

By night the cavalry are withdrawn (with the exception of standing patrols on the roads) and the infantry picquets are sent forward, not to the positions vacated by the cavalry, but to within the usual limits of distance in advance of the line of resistance laid down for infantry outposts. In the morning if the force is stationary, before it is light, the cavalry re-occupy the day line of observation, after which the infantry picquets retire to their supports, guns (if any) remain with the reserve and are seldom required with outposts "except when a defile or important approach has to be defended, or when the front line of outposts is on the selected battlefield."*

REARGUARD.

Cavalry marches at the extreme rear and on the flanks, formed as an advanced guard reversed. In action it protects the flanks and covers the retirement of the other arms.

Infantry marches in support of the cavalry as an advanced guard reversed. In action it deploys its whole strength if no serious fighting is intended.

Artillery marches with the main guard (except Horse Artillery which should be with the cavalry) and in action covers with its fire the retirement of the infantry.

It comes into action at the most distant ranges at which it can find a target in order to force the enemy to deploy and extend.

In withdrawing from a position some infantry retire first, then the artillery, then the remainder of the infantry and finally the cavalry. But this rule is open to exceptions, for example in retiring through a mountain pass. For here it is clear cavalry and guns cannot act on the flanks and would form a target at the entrance. In this case therefore they would retire first and the infantry last.

THE ATTACK OF A POSITION.

Cavalry reconnoitres and in action protects the exposed flank or flanks and acts as circumstances require against those of the enemy. The old rule was, that the bulk of the cavalry should be placed on the flank where the ground and conditions generally were favourable for cavalry shock action, the great example being Dresden in 1813, but the latest experience tends to modify this rule. A mass of cavalry may in future be employed "to seize and hold, *acting defensively*, some point which so jeopardises or threatens the enemy's line of retreat as to completely alter the tactical situation," or in the

* Infantry Drill, 1896. *Combined Training* somewhat enlarges the scope of artillery action with outposts: *viz.*, in addition, when there are favourable positions for the enemy's artillery within reach, or when the outpost position is peculiarly adapted for artillery defence.

same way, acting defensively, to seize and hold tactical points until supported by the slower moving infantry; and further to secure by fire action the flanks of a turning movement made in force by the reserves.

Should opportunities for charging present themselves divisional cavalry should seize them without waiting for orders.

Artillery comes into action at distant ranges in order to reconnoitre the position and locate the enemy's guns and to engage him in a duel *protected by the advanced guard infantry*. No ground within effective rifle range (the old rule, still in the drill books, was 800 yards) of the guns in action should be unoccupied by infantry.*

While the artillery duel is proceeding the main body of the infantry deploy for attack; but in future it will be uncertain whether a big battle can be decided in one day or two or three. So much will depend upon the result of the preliminary reconnaissance, and whether a reconnaissance in force may not be required. In small affairs the main body of the infantry attack as laid down in the Infantry Drill Book, *viz.*, in three distinct lines, the first two lines being further distributed in depth as experience demands.

THE DEFENCE OF A POSITION.

Cavalry as in the attack reconnoitres and afterwards protects the exposed flank or flanks; but the same modification in its action referred to under "the attack of a position" applies also to the defence. To meet and frustrate the enterprises of the cavalry of the attack, the defensive cavalry will occupy prominent and important points on the flanks *to forestall the enemy*, acting defensively. It does not however follow that no shock action will be resorted to in cavalry fights, the probability is the other way and that opportunities will be seized to charge dismounted cavalry that can be taken in flank and to capture and disperse their led horses.

It is said that Sir John French still believes in the crushing power of the charge and that he has expressed himself to the effect that cavalry soldiers *must* have been some kind of *arme blanche*.

Whether *artillery* will in future readily come into action at distant ranges in reply to the guns of the attack inviting them to do so is certainly open to argument. Even the old rule in the present drill book lays down that "it may be advisable not to unmask some of the batteries until the enemy's attack is indicated," and it seems quite possible that in future a weaker artillery may decline the artillery duel altogether, reserving its fire (from concealed positions) for the infantry advance.†

Ranges should be known, possible artillery positions of the attack recognised (and if these could be thoroughly swept it might be advantageous even for a weaker artillery to engage the enemy's

* Now 1,500 yards. *Field Artillery Training, 1902.*

† See *Combined Training*. Section 31, page 47.

guns at once as they attempted to come into action) and South African experience will probably cause an extension in the present drill book rule with regard to the concentration or dispersion of batteries* and guns on the defence will be still further dispersed, not only to sweep the avenues of approach, but to render concealment practicable.

II.

From the foregoing considerations, from the records of past wars and from our recent experiences in South Africa, we may deduce the following as principles of modern tactics. I divide them into two categories: (i) those that are permanent, and (ii) those that are susceptible of change.

The principles of the first category are modern only in the sense that they are as applicable now to the conduct of war as they were 2,000 years ago. Of these the chief are—

- (1) *Thorough reconnaissance of the enemy and of the terrain.*
- (2) *The active defence.*
- (3) *Superiority of force at the decisive point.*

It is perhaps a question whether we should not add as (4) *the active and continuous pursuit of a beaten enemy*; but although this may be said to be as old as the conditions that permit it, and although Napoleon illustrated it strikingly in his time, as indeed he strikingly illustrated every other principle of warfare, yet there was a time when the want of transport and bad roads rendered supply so difficult that a continuous pursuit could hardly have been possible, and therefore I take this principle as one of comparatively modern growth. It is said that if Hannibal had advanced at once on Rome after the battle of Cannæ he would have ended the second Punic war there and then; but it is certain that it was in his power to do so?

A thorough reconnaissance of the enemy, in order to divine his plans and to be cognizant of his strength, his dispositions and his movements, while at the same time screening our own and of the terrain in order to take every advantage of the ground, is the first great principle of tactics and is carried out:

- (a) by the mounted troops at all times, on the move and when the main body is at rest, and when it is intended to attack or to defend a position;
- (b) by spies;
- (c) by questioning the inhabitants;
- (d) by long-range artillery fire on the attack;
- (e) by infantry patrols at all times where the cavalry are insufficient for the duty;
- (f) by a reconnaissance in force.

"Whilst in attack the artillery is often concentrated, in defence some batteries are usually posted towards the flanks." F. A. Drill, 1836.

See Field Artillery Training, 1902, page 15.

History teems with examples of the disasters which follow a systematic violation of this principle, the last great illustration being the helplessness of the French in the Franco-German war. A good deal has been written of our own neglect of it in the present Boer war, a great part of the criticism being undeserved, but not all: for example, Colenso! Without Colenso is to be taken in itself as merely a reconnaissance in force?

The second principle of the first category, *viz.*, the active defence, requires no comment. It is obvious not only to all readers of military history but to every one capable of thinking. If you allow a determined adversary to knock you until he is tired, merely parrying his blows and attempting no counter-attack in return, he will certainly come on again and again and may some day take you at a disadvantage. Maggersfontein, Colenso and Spionkop led to no other results than the capture of Pretoria and the relief of Ladysmith. Fredericksburg, a great victory, gave the confederates no permanent advantage. Mars-la-Tour and Gravelotte, drawn battles at the worst from a tactical point of view, led to the investment of Metz and the surrender of an army.

The third and the most supremely important of these fixed principles, *viz.*, superiority of force at the decisive point, is perhaps the most difficult of application. It is one thing to write of it from the armchair and another to apply it in the field. One might almost say that it cannot be learnt, at least from books. It is intuitive in the great commander and with others experience alone can teach it. The history of every war furnishes example after example of its violation: reserves sent where they are not wanted or pushed in piecemeal to be dealt with in detail by the enemy, as was the case with the Russian reserves at the third attack on Plevna when Skobelev was unsupported.

The French at Gravelotte actually repulsed with heavy loss amounting to panic the German attack on their left, while they allowed their right, *the decisive point*, to be turned, the whole of their reserves remaining idle all this time opposite the centre or left centre of the position. It is true that when the actual situation at last dawned upon Bazaine he sent the reserves to his right; but it was then too late, the flank was turned and the most they could do was to prevent a tactical disaster. Strategically the battle was lost.

On the other hand the records of Frederick the Great's successful tactics, of the crushing victories of Austerlitz, Waterloo and Kœniggratz and, last but not least in skill and daring, of Stonewall Jackson's campaign in the Shenandoah valley, represent superiority of force either by fire or by shock at the exact point where it was required and where the results obtained by that superiority were decisive.

It may perhaps be said that to quote Stonewall Jackson's Shenandoah valley campaign is to trench on the domain of strategy; but if so I ask pardon and permission to further aggravate my offence by quoting as a last example Lord Roberts' rapid advance from the

Orange River. This example is of course entirely strategical. It is a splendid example of the results obtainable from the proper application of this principle to strategy. For what results they were! The surrender of Cronjé: the relief of Kimberley and indirectly the relief of Ladysmith: the capture of Bloemfontein and the uninterrupted advance on Pretoria.

We now pass to the second category of principles, *viz.*, those which have been subjected to continuous modification with the improvement in armament, or arise from it.

(1) *Cavalry must be prepared to fight on foot not only on those special occasions hitherto laid down in the drill books but in every conceivable operation of war.*—This is a radical change; but there can be no half measures if the rifle in future is to be the mounted soldier's principal weapon.

(2) *Artillery should be separated on the defence so as to sweep all approaches and to take advantage of concealed positions.*—On the side of the attack concentration of guns is still a principle as facilitating concentration of fire and we must await the appearance of the new artillery drill book to see how far expert opinion will modify it.*

(3) *A weaker artillery on the defensive should decline the artillery duel.*—This rule presupposes concealment; but even then I hardly know if I am justified in recording it as a principle of tactics. The Boers did not invariably follow it and as a consequence their guns were frequently silenced before the infantry attack began. But the arguments in favour of reserving artillery fire on the defence until the infantry attack is clearly indicated, especially when disparity in the number of guns is pronounced, appear to be very strong if the defending infantry are entrenched and effectively concealed.†

(4) *Infantry in action in the open must be in skirmishing order and this applies by every division or subdivision of the 1st and 2nd lines of the attack.*—When the ground favours it no doubt supports will still be able to get along better in closed sections than in a widely extended line—at any rate this is the opinion of a very distinguished officer lately returned from South Africa—but in the open not only they but the reserves and second line must extend as soon as they come under fire, the whole into more or less *skirmishing* order according to the severity of the enemy's fire.

This implies great increase of depth and a total abrogation of the hitherto drill book rule that a battalion should not cover more than its front in line.

(5) *Concealment of the line of battle on the defensive.*—This is a new principle brought about by the introduction of smokeless powder. Before that time although concealment in the early stages of a fight

* "It will frequently be necessary to disperse the artillery both in the attack and in the defence" and *Field Artillery Training*, 1902.

† "When the defender is greatly out numbered it is very questionable whether he is likely to gain anything by entering into an engagement with the opposing batteries." *Combined Training*, 1902.

had its advantages—as until it was known where the true flank rested it was impossible for the attacker to carry out a turning movement or flank attack satisfactorily—yet in those days, when the first puff of smoke, it was known, must necessarily reveal the positions of both guns and infantry, there was not that obligation as it were, as a matter of the first moment to conceal the gun emplacements and the shelter trenches and the artillery and infantry lines of battle which exists at the present time.

Half the advantage of smokeless powder to the defensive would be thrown away if the lines of battle were clearly defined and thus easily reconnoitred by the enemy. If it is possible to conceal an army as the Boers are said to have concealed themselves at Colenso, so that it was thought the hills had been evacuated, a great future would seem to be possible to the defensive rôle in the hands of a man who like Wellington, with rare acumen, shall be able to employ it as a means to more effectively overwhelm the adversary.

The Boer defensive tactics furnished an object-lesson to our army in this respect which it is not likely will soon be forgotten.

(6) *On the side of the attack the frontal and flank attack should be combined; and the flank attack should be developed before the frontal attack is made.*—If this principle required illustration the final operations before Ladysmith, known as the battle of Pieters, would supply it, positively by the success of the Lancashire Brigade on the last day and in a negative sense by the dire disaster that befell the Irish Brigade three days earlier.

Since the great improvement in armament due to rifled guns and small arms the main attack when successful has usually been on a flank and breaking the front, as a tactical operation, has ceased to be feasible. The great and undue extension of the Boers on the defensive has however drawn attention again to this last mentioned scheme of attack—so effective when feasible—and Lord Roberts is said to have actually accomplished it near Pretoria. “The enemy had so far strengthened his flanks that the turning movement could on neither side make satisfactory progress. Lord Roberts thereupon forced the hostile centre.” *

Nevertheless such an opportunity is unlikely to occur in a European war, and as in the later wars of the 19th century so probably in the future the main attack will be made on a flank.

(7) *Constant communication between the commanders of the attacking infantry and supporting artillery.*—This again may be said to be a new principle due partly to the great range of modern guns and partly to the undesirability, to say the least of it, of artillery advancing within the effective range of modern rifles, say 2,000 yards. Instead of advancing with the infantry as laid down in the drill books of 1896 the supporting guns may now have to keep up a hot fire to the last moment on the defenders' trenches over the heads of the

* Callwell's *Tactics of to-day*.

assaulting infantry, from ranges which may be 3,000 or 4,000 yards away and in the case of heavy guns much further. How necessary it is to the success of an assault that this fire should be kept up to the very last moment, has been testified to by Sir Charles Warren, Major Callwell and indeed every officer who has seen for himself the power of the Mauser, and this can only be done by means of communication either by signal or field telegraph or both, between the infantry commanders on the spot and the officers with the guns.

(3) *All captured positions, from which an immediate advance is not intended, should be at once entrenched.*—The fighting at Plevna in 1877 first drew general attention to this principle; and in the present war in South Africa no admonition from all accounts has been necessary. The instinct of self-preservation has been sufficient to ensure it being followed. Throughout the theatre of war, stones and boulders have been usually found ready to hand on the ground and both sides have utilised them in constructing hasty defences.

On the North-West Frontier of India also the sangar is the usual breastwork and consequently comparatively few tools are needed there; but in more civilised countries this substitute for earthwork cannot be depended on, and the provision of sufficient tools of a *reliable kind* either to be carried on mules or in carts or on the men if light enough, is a matter of urgency: 40 picks and shovels to a battalion, the present Indian allowance, may be sufficient for Indian requirements under present conditions, but it is evidently only suited to the hills.*

9. *For decisive results attack the strategical flank if there is one.*—The great dependence on railways in modern war for supplies of all kinds renders this principle an important one.

An army connected with its base by a slender line of rail and forced from that line by the result of a battle would be in great straits, so that a vigorous pursuit might destroy it.

This principle as a *rule* is however like all other rules in war open to exception. The strategical flank may be *too* strong, or it may be strong, whereas the other is weak and therefore the tactical flank; and in practice naturally one or other of these conditions is very likely to occur.

10. *A turning movement should be met by a counter-attack.*—That the concealed echelon, *i.e.*, troops echeloned on a flank in a concealed position would be the very best form of counter-attack that could be devised few will deny, if only—and the *if* is of vital importance here,—the general commanding in chief could be sure that it would come off. General Hamley dwelt on it in his *Operations of War* and with approval, thinking that the field telegraph might now make it feasible; and lately Major Callwell in his able and most interesting book, *Tactics of to-day*, has vivified the idea once more. But the latter does not speak very confidently of it, for he says “it involves a certain separation of force which is necessarily somewhat risky.”†

* Tactics of to-day, page 44.

† Now increased by 12, carried by ammunition mules.

I venture to think myself that it is somewhat of a theoretical delusion, and I cannot call to mind any great occasion when it has been acted upon *intentionally*. There is an incident in the battle of Kernstown, 1862, when the Federals concealed in the forest operated in force on Jackson's turning movement which reads something like it ; but it is not clear that this force was intentionally placed there for that particular purpose.

That it is effective beyond all other forms of counter-attack when it comes off is illustrated by Desaix's advance on the Austrian flank at Marengo ; but Desaix had been detached on a reconnaissance and was recalled on the Austrian positions becoming known and there was nothing whatever of pre-arrangement in the movement. Anxiety for the actual flank will nearly always cause a commander to keep his reserves under his own hand. Moreover the necessary conditions must be rare, *viz.*, one flank absolutely secure (so that it is certain the enemy will attack the other) and the other affording such cover as will enable the echelon to remain concealed. If discovered it may be itself outflanked or cut off. Some modification of this principle is more probable. If the enemy, for instance, can be induced to attack a false flank, an enveloping moment by the reserves in the assailant's outer flank should be decisive.

Wellington's victorious attack on the French turning movement at Salamanca was something of this nature, and surely Bazaine threw a great chance away at Mars-la-Tour.

Musketry fire tactics and fire discipline both on the attack and on the defence are questions of the very highest importance, and much has been learnt recently regarding them ; but I have thought it better to pass them over here as too debatable and too open to exceptions of all kinds to be as yet summarised into a principle.

It might however rightly be considered an omission not to include among these maxims one regarding the measures of security referred to in part I. These duties vary somewhat not only intrinsically one from another, but also according to the terrain and the intention of the commander ; but the following may perhaps be accepted as a principle :

11. *Outposts, advanced, rear and flank guards should sufficiently far from the troops they are covering to prevent the latter, in the first case, from being surprised, and in the other cases, from being molested by the enemy's artillery fire.*—In the absence of special orders the distance of these detached forces from their main body, when in the proximity of the enemy, depends very greatly on the ground ; but obviously the determining factor generally must be the effective range of the enemy's guns.

**Averages of scores made at the International Rifle
Meeting at Shan-hai-kuan, August 1902.**

Nationality.	Number firing.	Aggregate score.	Average.
<i>Lying down 200 Metres.</i>			
British, 30th Punjab Infantry ...	15	1,364	90'9
German	15	1,336	89'06
Japanese	15	1,225	81'6
French	13	951	73'1
Russians	15	1,079	71'93
Italian	7	440	62'8
<i>Standing 200 Metres.</i>			
British, 30th Punjab Infantry ...	15	1,177	78'4
French	5	367	73'4
German	10	693	69'3
Russian	15	928	61'86
Japanese	15	903	60'2
Italians	7	273	39'00

Total number of Prizes, Individual	...	...	24
Number won by British	...	...	12
Number of events including officers' competitions	...	...	5
Number of first prizes won by the British	...	...	4
Remainder of first prizes won by the Russians	...	...	1
Event not won by the British	...	Officers' standing.	

SOME FOREIGN ARTICLES OF SPECIAL INTEREST.

FRANCE.

Revue-du Cercle Militaire, 12th July 1902.—This issue contains an interesting account of the grand Russian manœuvres of 1902, which will be found interesting to those who have been unable to read the accounts which have appeared in the Russian papers. There is also a continuation of an article on the evolution of artillery during the nineteenth century.

23rd August 1902.—Those interested in finance will find in this number a summary of the military expenditure of the States of the Triple Alliance ; and there is a continuation of an article on Biserta, which also proceeds in the issue of *30th August*, wherein will be found an account of the two squadrons of Senegalese cavalry serving in French West Africa.

6th September 1902.—In this issue Captain de LaMothe commences an interesting paper entitled "Three Years Campaigning in the basin of the Tchad," illustrated by an excellent map, which is continued in the succeeding numbers up to the 11th October. Those interested in education may read the article on the special military school in the same number, which may throw some light on a burning question.

20th September 1902.—Some account of the reorganisation of the Swedish Army will be found of interest, in view of the fact that the Russian octopus, in the course of the deglutition of Finland, and the elimination of the Finnish nationality, is extending her tentacles towards the north-west. There is in addition some description of Italian Military literature.

27th September 1902.—Light pontoons for the passage of rivers are here described, with illustrations.

11th October 1902.—This number contains a continuation of notes on Japan, dealing with military education in that country.

18th October 1902.—The notes on Japan are concluded with an account of the new current of opinion in that country, and a monograph on Japanese policy in China and Corea.

25th October 1902.—A French view of the recent German manœuvres will be found of interest.

1st November 1902.—The *Chronique Française* in this issue contains some information in the French Colonial service, the following points being touched upon :—West African Government ; the organisation of troops on the French Congo ; the marriage of officers in the colonial troops.

An article on Italian military life, which has been running in the previous numbers, is here concluded.

UNITED STATES OF AMERICA.

Army and Navy Journal.

September 20th.—Commenting on the recent German manœuvres, it is pointed out that their most interesting and valuable feature is, as Poutney Bigelow says "that which is not shown to the visiting stranger—the part that is played before the curtain is rung up, before a single battalion has marched to the front. I refer to the great German Secret "mobilization." * * * In Germany every cart, every horse, every cow, everything that can serve an army in the event of war is carefully ticketed against the day when its services will be required. When the Emperor presses a certain button in Berlin every hamlet in the Fatherland feels the throb and responds with the alacrity which we associate with the fire alarm. Every man of fighting age knows just where to report. * * * It is in the early stages of the manœuvres that the military student sees what is most precious to him—it is just the thing which foreign military visitors are not invited to see."

Journal of the United States Artillery.

July—August.—There is an interesting article in this number on French Field Artillery, in which the writer commences by pointing out the secrecy which has attended the introduction of the 77 mm. field gun, regarding which neither the initial velocity, weight, number of balls and weight of the loaded shrapnel are not known. The article is worthy of study by artillery officers. As the writer points out :— "The French field artillery is the first to promulgate for the new armament, with rapid—fire guns, the consequent rules for the service of the piece formation, organization, and firing regulations. All precepts contained therein are therefore worthy of earnest consideration, even if we cannot understand clearly all the conclusions and requirements contained therein."

September—October.—This issue does not contain much original matter of interest, the two principal articles being reproduced from the proceedings of the Royal Artillery Institution.

The Professional notes on Artillery material Ballistics ; Armour and Penetration, electricity, and Warships and Torpedo boats will be found interesting and instructive.

Journal of the Military Service Institution.

September.—An interesting article in this issue is "Notes on Transportation by a Member of the China Relief Expedition," in which the transport services of the troops of the various powers represented

n China are compared. The conclusion arrived at is that "the British Indian Army had the most thoroughly organized transport system of all the forces before Peking.

Other interesting papers are "Sea-coast forts in North-China in the campaign of 1900 (illustrated) ;" "combined Army and Navy operations," and the second part of "The Campaign of Eckmühl, 1809", continued from the July number. This campaign is historically and scientifically treated, and is worthy of the attention of students of Napoleon's grand strategy, which was herein exemplified in a striking manner, in his action constantly on the offensive and in force, and in taking the offensive upon only one point at a time.

Cavalry officers may find "The American Cavalry in the War of Secession," both interesting and instructive, especially in view of modern developments with regard to the mounted arm.

R. G. BURTON.

GERMANY.

The 7th and 8th supplements to the *Militar Wochenblatt* contain papers on the German regiments in the Swedish service and the combat at Montebello, 20th May 1859. The first is of some historic interest and gives a readable sketch of the military life on that part of the continent during the latter half of the 18th century. The fight at Montebello is described with sketches as a reconnaissance in force which failed in its object. It was executed by a whole Austrian corps which was checked and repulsed by the prompt attack of the French division Forey. Attention is drawn to the causes of failure. The Austrians employed 25,000 men and reported that they had encountered 40,000, whereas in reality the allies disposed of 7,000.

Militar Wochenblatt No. 67 has a paper worth reading on contemporary tactics combating some popular theories as to the mathematical precision of modern weapons in action. These theories are described as half truths.

It is pointed out that the three principal considerations in a fight are still as formerly—

- (1) the ground and how to make the best use of it ;
- (2) the object in view, to strike down the enemy morally and physically and to gain an insight into his plans and condition ;
- (3) the "man" as the principal weapon whose fighting power from every point of view has to be developed to the utmost in conjunction with the machinery he is armed with. The last by no means necessarily the decisive factor by itself.

The impossibility of maintaining the supply of ammunition corresponding to the capacity for using it is insisted upon.

Militar Wochenblatt of August 13th contains—

A naval article of some interest on the interests of Germany oversea.

Also a paper on the training of young horses which is worth reading. It draws attention to the difference in time taken to train

the young horse and the young soldiers due to the more reasonable treatment of the latter and to the working capacity developed in each.

Advocates loose boxes, turning loose occasionally to develop the intelligence, longer hours exercise, more fresh air and sounder food.

16th August.—An interesting paper describing how the colour of the 16th Regiment was lost at Mars la Tour, gives a graphic description of the fight of the 38th Brigade, the close fighting in the smoke on the banks of the famous ravine where it lost so heavily.

27th August.—A paper which reviews and summarises our new infantry drill. It contains but little criticism: notices however that for the first time in 1902 our company commanders have assigned them the independent rôle conferred by the Prussian regulations of 1843. Notices the adoption of an olive coloured neutral tent for the service uniform of the United States Army.

Militar Wochenblatt, 3rd September, has concluding article on the New English drill book which is summarised.

In view of the frequent failure of our attacks on very weakly held Boer positions which reserved their fire until the infantry attempted to storm, the opinion is expressed that a defender who reserves his magazine fire in the same way will beat off the final rush of the attack as it is sketched in the book under review.

That is almost the only criticism.

"*Tactique des Trois Armes*" by General Kessler of the French Army is reviewed.

Judging from this notice it must be of some value and interest and deals in the subject indicated by its title.

It is said to show a new influence in French tactical ideas.

C. BATTINE, *Captain,*
15th Hussars.

RUSSIA.

Voiennyi Sbornik, July.

The tactical training of the German Infantry is treated of under 3 headings, the Private, the Non-Commissioned Officer and the Officer.

A. *The Private*—

1. Drill, carried on on the square, which has for its object the training of the man in the proper use of his arms, and instructing him in all movements in close and open order so that he is perfectly ready to take his place in the ranks in all formations whether for ceremonial or for extended order.

2. Field training, here the individuality of the man is developed; the ordinary trained soldier is expected to know in broad outline the various portions of a column, advanced guard, main body, rear and

flank guard, and to understand the composition of outposts. The reconnaissance is the duty of cavalry, infantry have to patrol, and for this purpose selected men are specially trained as "patrol leader." These men are expected to know the uniform of the French and Russian armies, the general conformation of the frontier, they must be able to use a compass and read a map, and above all, and on this great stress is laid, be able to make a verbal report, or to repeat an order or message word for word as it was given them.

B. Non-Commissioned Officer—

Non-Commissioned Officers are expected to know all that is demanded from patrol leaders, in addition they must understand the use of binocular and range-finders and be able to make rough sketches. They must be able to take command of patrols, and reports are demanded of them showing a certain amount of tactical knowledge, for example, a non-commissioned officer may be told to go and report on the possibility of putting a village into a state of defence, whether a road is passable for all arms to search for ford, or river passages which are easiest to force in face of an enemy.

They are constantly practised in answering in writing short problems, part of a larger scheme, so that on service they will always be ready to act at once. An example is given below.

The enemy crossed the frontier to-day at noon. This detachment is in quarters at B, main body at C. Our battalion has to furnish the outposts D company has been given the village as its zone; corporal A to establish a detached post at X with ten men. Write out orders for moving off your party and taking up your position, time 5 minutes. On return to quarters give in writing your ideas as to your duty and how you will carry it out, and what you will do in case of attacks.

Such small schemes are constantly being set the non-commissioned officers; the special months devoted to the tactical training of non-commissioned officers are November, December and January.

Officers—

On the garrison drill ground, young officers are put in command of sections made up to war strength and made to command them under all circumstances of attack and defence, these exercises are only useful for very young officers, as the regiment always being in the same station after a very short time, every yard of the drill ground is known, and the way any particular exercise should be carried out is also known.

Away from the drill ground, these exercises are always carried on by two sides and is the most valuable training the German Officers receive. Troops move out of barracks, only the company or section that is actually in action is taken, the remainder of battalion or company is represented by flags, on the line of march an exercise is set by the supervising officer, and has to be carried out at once on the

spur of the moment. As these exercises cannot be carried on very far away from barracks as the men have to get back the same day, in some stations they are impossible as suitable ground does not exist, and they have to be done at manœuvres.

Staff town and staff sides, the former entails an absence of several days from barracks whilst the latter only occupy one day.

Schemes worked out on maps, an exercise is set and the answer always takes the form of a set of written order.

War games the directing officer is to be carefully selected not for rank, but for his ability in supervising the exercise.

Winter essays on tactical subjects formerly all officers had to send in an essay, now there are many exemptions.

Great care is taken in the training of Battalion Adjutants who as with us are the confidential staff officer of the Battalion Commander, he is expected to take account tactical view of a situation and to be able to report correctly and accurately to his chief on the tactical situation.

VOIENNYI SBORNIK, JULY 1902.

Letters of an old cavalryman.

3rd letter.—Praises the weapon, but finds fault with system of musketry, unnecessary detail, train man to handle his weapon and to shoot at longer ranges than at present. As to judging distance, it will be sufficient if officers and senior non-commissioned officers are trained, unnecessary to train individual men to judging distance, this is an Infantry business.

The author deplores the want of education in cavalry, only a very small percentage can read and write, advocates robbing infantry and artillery of literate men and giving them to cavalry, as at present the vast majority of men or patrol being illiterate are unable to report what they see and hear.

4th letter.—The author is grateful for the improvement in drill, cavalry now drilling at the gallop, and making advances of a mile or mile-and-a-half at a time, expresses a doubt as to whether senior cavalry officers are up to the mark. Nowadays as long as a man and his kit are clean, squadron commander doesn't mind but spends whole time in the field, the days of spit and polish are over. The object of all cavalry training is to gain moral superiority on the field of battle.

5th letter.—If cavalry is properly horsed, trained and taught to believe in itself, *i.e.*, morale, it will charge home even nowadays and against artillery or infantry, the author does not agree with those who think the days of the white arm are passed.

Teach cavalry to attack over all ground and all obstacles keeping cohesion and ready to change front, remembering the charge is the object of training and they will charge, question of sword or lance is a detail.

The change from pipe clay system took place in nineties against wishes of order officers. The old riding school days are passed and men and horses trained outside together result horses more manageable and can work more rapidly straight to front or changing direction without getting into confusion than formerly.

Inspecting officers should judge squadron commanders by the fitness of their horses for work and not by their fatness.

6th letter.—Author thinks regimental brigade and divisional training not on a par with squadron training, sufficient is not got out of time available too much time spent on the square; the square should only be used by squadron commanders, commanders of larger units should avoid details of drill and should practise their commands on all ground away from square.

The commanders of larger units should know how to give short and clear orders, subordinates should know how to understand and carry them out.

Regiment and Brigade should be the tactical unit, a division only administrative it is too big for tactics and not big enough for strategical objects for which a whole corps of cavalry is required. Thinks the regulations are apt to mislead by using the term "line," as there are lines with in lines advocates some other term for the division formed for attack "triffen" or "vataga," and use line only for divisions of these bodies.

Example.—Corps.

1st vataga will have 3 regiments in front line and will attack straight to front, 4th regiment in 2nd line on right flank.

2nd vataga will turn right flank of enemy and attack at same time as 1st vataga one brigade in front line 2nd Brigade in 2nd line on left flank.

3rd vataga the detached brigade in reserve in line of columns in rear of left flank of 1st vataga.

For Brigade—

1st vataga 1 regiment 5 squadrons in 1st line 6th squadrons in 2nd line on left flank.

2nd vataga 2nd regiment in line of column in rear of right flank of 1st vataga.

Use expression line for each group, but lines for whole body is fatal.

7th letter.—Author again lays down the axiom, that divisions are useless tactical units too big for the battlefield and too small for rôle of independent cavalry. Keep the division for administrative purposes, but at division training the brigades should be trained as separate units.

Rôle of cavalry corps ; (a) to drive back hostile cavalry reconnaissances, and reconnoitre itself ; (b) hinder hostile mobilisation ; (c) to check hostile advance and cover our own mobilisation ; (d) to confirm victory by pursuit ; and (e) cover its own army in retreat. By using handy tactical units such as brigades and regiments on the battlefield cavalry can act the part of the bayonet, for remaining with the Infantry reserves covered by accidents of ground it can undertake local attacks whenever the firing line notices a weakening of the fire in front of it and a corresponding loss of morale in hostile infantry. If cavalry make these local attacks it will have success as it is ready for the favourable opportunity being with the infantry reserves it doesn't stop its own infantry's fire until the last moment, and then only locally being close up its commander has had an opportunity of observing the ground he will have to charge over the cavalry attack withdraws fire from infantry who can then press on, if the cavalry is beaten back it can reform under its own infantry who are close up, and bring only local and carried out by comparatively small bodies there is no sacrifice of large masses of horsemen.

8th letter.—The author criticises the authorities, because they do not practise the cavalry in dismounted action when they have turned the whole of the cavalry into dragoons, but remain contented with musketry and mounting and dismounting. He quotes the opinion of a German officer that the German Cavalry are equal to an equal number of German infantry for dismounted work, and asks if the Russian cavalry who serve for 5 years would not be the superiors of German infantry if numbers are fairly equal.

Cavalry ought to have machine guns ; the author thinks that dragoons, horse artillery and machine guns are a very useful mixed force and having mobility would have to be seriously reckoned with. He thinks that manœuvres on a large scale are of little value, as they degenerate into nothing but marches and counter-marches. On the other hand manœuvres of small mixed forces, as carried out are of little use as the commanders only know their own arm ; he asks for small mixed force manœuvres under real service conditions so that commanders may learn all arms, and that the cavalry may learn in what way they can co-operate with infantry and artillery.

September.—*The war of 1854-55 on the coast of Finland*, an account of the capture of Bomarsund from the Russian point of view.

Sketches of the training of the French Infantry.—The year is divided as a rule into five periods of training which however are not rigidly adhered to.

1. From arrival of recruits to the end of February, individual training of the young soldier and preparing him to take his place in the rank, and repetition of same for old soldiers (spring drills.)

2. From end of February to beginning of April ; work in squads.

3. To the first half of June, work by companies.

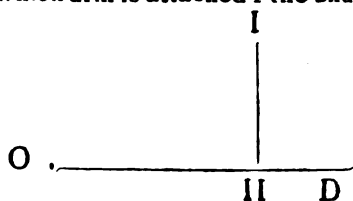
4. To the middle of August ; work by battalions.

5. To the end of September ; training of reservists and large manœuvres.

The author goes into details as to how the first three periods are carried out ; everything is as far as possible close away from the square, and individuality encouraged in every respect.

Description of a new range-finder by R. Fuess's on the usual principle of right angles, and prisms but instead of drums, the distances are measured on an arm attached to the instrument to which the base is at right angles.

O being object, II is the instrument to which arm is attached I the 2nd observer, who directs the man at II how far to the right to push an index on the arm so that the index may correspond with object O in prism I, when they correspond range read off arm.



J. M. HOME, *Captain,*
2-2nd Gurkha Rifles.

NOTICE.

The sum of Rs. 500, allotted by the Council of the United Service Institution of India, as premia for articles contributed to the Journal during 1902, was distributed to—

Lieutenant-Colonel A. J. W. Allen, Assistant Adjutant-General,

Lieutenant-Colonel C. B. Mayne, R.E.

Major F. G. Bond, R.E.

„ E J. Medley, 17th Bengal Lancers.

„ H. V. Cox, 21st Madras Pioneers.

Tulwar.

Captain R. G. Burton, 1st Infantry, Hyderabad Contingent.

„ P. G. Twining, R.E.

„ J. M. Home, 2-2nd Gurkhas.

„ E. M. J. Molyneux, D.S.O., 12th Bengal Cavalry.

„ H. H. F. Turner, 2nd Bengal Lancers.

„ E. Dawson, Rangoon Volunteer Rifles.

Late Lieutenant A. E. Turner, R.E.

Lieutenant E. F. Orton, 7th Bombay Lancers.

Sergeant-Major F. Corner, Bedfordshire Regiment.

Prize Essay Gold Medallists.

- 1872.....ROBERTS, Lieut.-Col. F. S., V.C., C.B., R.A.
 1873.....COLQUHOUN, Capt. J. A. S., R.A.
 1874.....COLQUHOUN, Capt. J. A. S., R.A.
 1879.....ST. JOHN, Maj. O. B. C., R.E.
 1880.....BARROW, Lieut. E. G., S.C.
 1882.....MASON, Lieut. A. H., R.E.
 1883.....COLLEN, Maj. E. H. H., S.C.
 1884.....BARROW, Capt. E. G., S.C.
 1887.....YATE, Lieut. A. C., S.C.
 1888.....MAUDE, Capt. F. N., R.E.
 YOUNG, Maj. G. F., S.C. (specially awarded a silver medal.)
 1889.....DUFF, Capt. B., S.C.
 1890.....MAGUIRE, Capt. C. M., S.C.
 1891.....CARDEW, Lieut. F. G., S.C.
 1893.....BULLOCK, Maj. G. M., Devonshire Regt.
 1894.....CARTER, Capt. F. C., Northumberland Fusiliers.
 1895.....NEVILLE, Lieut.-Col. J. P. C., S.C.
 1896.....BINGLEY, Capt. A. H., S.C.
 1897.....NAPIER, Capt. G. S. F., Oxfordshire L. I.
 1898.....MULLALY, Maj. H., R.E.
 CLAY, Capt. C. H., S.C. (specially awarded a silver medal).
 1899.....NEVILLE, Col. J. P. C., S.C.
 1900.....THUILLIER, Capt. H. F., R.E.
 LUBBOCK, Capt. G., R.E. (specially awarded a silver medal).
 1901.....RANKEN, Lieut.-Col. G. P., S.C.
 1902.....TURNER, Capt. H. H. F., S.C.

MacGregor Memorial Silver Medallists.

- 1889.....BELL, Col. M. S., V.C., R.E. (specially awarded a gold medal).
 1890.....YOUNGHUSBAND, Capt. F. E., K. Dn. Gds.
 1891.....SAWYER, Maj. H. A., S.C.
 RAMZAN KHAN, Havildar, 3rd Sikhs.
 1892.....VAUGHAN, Capt. H. B., S.C.
 JAGGAT SINGH, Havildar, 19th P. I.
 1893.....BOWER, Capt. H., S.C. (specially awarded a gold medal).
 FAZALDAD KHAN, Dafadar, 17th B. L.
 1894.....O'SULLIVAN, Maj. G. H. W., R.E.
 MULL SINGH, Sowar, 6th B. C.
 1895.....DAVIES, Capt. H. R., Oxfordshire L. I.
 GUNGA DYAL SINGH, Havildar, 2nd Rajputs.
 1896.....COCKERILL, Lieut. G. K., S. C.
 GHULAM NABI, Private, Q. O. Corps of Guides.
 1897.....SWAYNE, Capt. E. J. E., S. C.
 SHAHZAD MIR, Dafadar, 11th B. L.
 1898.....WALKER, Capt. H. B., Duke of Cornwall's L. I.
 ADAM KHAN, Havildar, Guides Infantry.
 1899.....DOUGLAS, Capt. J. A., S. C.
 MIHR DIN, Naik, Bengal S. and M.
 1900.....WINGATE, Capt. A. W. S., S. C.
 GURDIT SINGH, Havildar, 45th Sikhs.
 1901.....BURTON, Major E. B., S. C.
 SUNDER SINGH, Colr. Havildar, 31st Burma Infantry.
 1902.....RAY, CAPTAIN M., R.E., 7th Rajput Infantry.
 TILBIR BHANDARI, HAVILDAR, 9th Gurkha Rifles.

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PANIPAT.

BY CAPTAIN A. I. R. GLASFURD, 4TH INFANTRY, HYDERABAD CONTINGENT.

Panipat! We are not all of us students of ancient Indian History, yet to most the name must sound familiar, strike some responsive chord.

A fragment of half-remembered verse, some dim phantasy of mail-clad mace-swinging warriors, the imagery of pompously brilliant, flashing Eastern battle array — how acquired it would be hard at the moment to say — they flit through the mind in company with such worn phrases as “stricken field,” “streaming rout,” “chain armoured war elephants spreading ruin in their mad stampede”; and gradually it comes to us that it was the fate of Hindustan—was it not?—that was more than once put to the decision of the sword on Panipat's historic plain.

A reference to the nearest encyclopædia and a glance at the map of Northern India will put us in possession of the main or better known features of the history of Panipat, and may possibly induce a somewhat confused train of thought, a mental passing in review of scraps of half forgotten Indian history, and vague recollections of that of the various and varied nations, rulers, and dynasties that have from time to time held sway over that great shifting city of Delhi, fifty miles away, to which Panipat owes and adds fame. But it is not every day that one finds oneself so minded as to face a plunge into the tortuous paths and conflicting statements of the earlier histories of Hindustan.

The best aid to a sound knowledge of geography is travel; and, no less naturally, a personal acquaintance with the scene of events will often render history engrossingly interesting, the perusal of which under other circumstances might have proved but a dreary occupation. One is not always sufficiently aware of the enormous part played in every-day thought by mind-pictures. When reading, when listening to or reciting some narrative, or when merely cogitating, we automatically construct these mental sketches as our tale

proceeds. The incidents placed before us through the medium of bald print or mere words are instantly illustrated and materialized by animated scenes, thrown in all their changeful rapidity on a mental canvas, and representing the chain of events more or less accurately, or else entirely in a fanciful manner, according to the means at our disposal — local knowledge, illustration, or word-painting — or their lack. And when that wondrous artist the "mind's eye" is enabled, by the possession of local knowledge and interest, to throw an uninterrupted, free, and life-like cinematogram on the back ground of the brain, we are even more deeply interested and narrative than we should be were we aided alone by the most graphic description and the best of illustrations.

There should therefore be some of us whose interest has been awakened of late regarding the history of Panipat, for a short while the scene of operations during the first phase of the Delhi Mutinies of 1902: and this must serve as an excuse for these notes.

Since most of what follows is, necessarily, gathered from existing works on history, it would appear unnecessary for the writer to make reference piecemeal to the sources of his information; it may therefore be sufficient to acknowledge the books so used by him in the accompanying marginal notes.

Dow's translation of Firishta.
Hunter's Imperial Gazetteer,
India.

Kaye's Sepoy Mutiny.

Article by H. G. Keene in the
"Calcutta Review," 1879.

The town of Panipat, which has always occupied the same position, its site having remained the same throughout history, is situated about the centre of the ancient battlefields, about fifty-three miles north of Delhi and twenty miles south of Kurukshetra on the Grand Trunk Road connecting Amballa with Delhi.

It may be reached either by the above main road, by part of an irritating cross-country tracks deep in very fine sand, or by railway. The last is recommended.

An old bed of the river Jumna runs almost round the town — the river now flowing some ten miles further east — which is supposed to be composed of the debris of the great lakes, but, as appears more likely, probably a natural elevation of the level of which may have become slightly raised by accumulations of such debris. Most of the large villages in this part of India are found on similar rising grounds, on which they appear to derive immunity from the floods and attrition of the great rivers.

Panipat is of great antiquity, and is supposed to date back to the period of the wars between the Pandavas and the Kauravas being one of the famous "pats" or "prasthas" demanded by Yudisthira from Duryodhana as the price of peace.

Count von Noer in his *Life of Akbar* describes the country round Panipat and the old battle-field as "a far-reaching level and almost unmitigated tract, broken only by insignificant undulations. Here and there, where the shallow soil is moistened from some neighbouring watercourse, grow sparse grasses and stunted thorns, but for the most part the eye falls only on the uniform yellowish grey waste."

sterile earth. Everywhere empty silence reigns, and it would almost seem as though this desert had been designed for the barren field of nations."

Now this description may have suited the ancient Panipat or it is possible that the Count may have visited a portion of the locality during the Punjab summer, (when we should be sorry for him) and have fallen into the globe-trotter's error of carrying away an impression of India as she is during only one of her three very widely differing seasons; but the present appearance of the historical plain can not be said to tally with all this. Panipat plain is as broad and level as of yore, but a considerable portion of the country must be regarded as "very enclosed — view restricted." A gauge at the way showing the lavish ramifications of a great irrigation system will prepare the reader for the thick groves of trees, bands of the common date-palm and stretches of tall waving grasses: not to mention even in the absence of these, a luxuriant cultivation, the result of introducing artificial irrigation to the "sterile earth."

Nor can these plains now be regarded as a sunning arena for the nations: nor for the matter of that as designed for the battle-field of considerably smaller units than nations. Perhaps it is that Panipat's long day is over: that the tale of her glory has at last — her soil to suck up no more of warriors' blood — nor even a water under the hoof beats of the anxious troops.

We have not far to go to seek an explanation as to the reasons that led to the selection of Panipat for the great arena where the fate of Hindustan has been decided in the past, so that in these three historical battles of which most people are aware is an endless succession of less well-known and more obscure actions, the incessant comings and goings of invading armies and of retreating armies, and in the ebb and flow of a tide that has ever agitated the golden and aluring vale of India. But the most important have likened the position of Panipat to that of a rock, a rock washed and re-washed by its troubled waters.

India, that is to say Hindustan, has until the advent of Arabian and European conquest suffered more or less from the invasions, whence have issued in succession the Scythians, the Huns, the Afghans, the Tartars, and Mongols. The type and the source of these invaders has hardly ever varied. Coming to us from the north, from Ghazni or from Tartary, and crossing the Hindu Kush and the great Attock, the line of invasion passed over the hills of the Punjab or near Srinagar, and made its way to the right bank of the Jumna: a route dictated by considerations of the convenience of security, of supply, and of securing the line of communication — by the river — if that line did not exist, a route only secured by the river — if that line did not exist, a route only secured by the river. It should not be forgotten that before Delhi existed, the ancient capital was the city of Kanauj, situated on the Ganges about fifty miles above Varanasi and a route of communication of the route above described.

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India, that is to say Hindustan, has, until the latter era of Maratha and European conquest, suffered invasion ever from the north-west, whence have issued in succession her masters; first the Persians, then Alexander the Great with his Macedonians, and, later on, the Afghan, Tartar, and Mongol. The route taken by these invaders has hardly ever varied. Winding through the Khyber Pass, from Ghazni or from Tartary, and crossing the Indus near the present Attock, the line of invasion passes onward over the five rivers, through or near Sirhind, and makes for Delhi *via* the right bank of the Jumna; a route dictated no doubt equally by considerations of directness, of supply, and of tactical value; one flank at least being secured — by the river — in that final hundred miles where opposition was most likely. It should also be remembered that, before Delhi existed, the ancient capital was the city of Kanauj, situate on the Ganges about fifty miles above Cawnpore, and in direct prolongation of the route above described.

In order to obtain some idea of the really enormous number of times that the luckless plains of Panipat must have been devastated by the sword, either in actual battle or in the passage of armies, it is unavoidably necessary to make at least a short résumé of those events in the history of Hindustan which immediately concern this particular locality ; within which we may include a somewhat more detailed notice of the three decisive battles which have raised the place to its historical fame.

In the eighth century before the Christian era began, Kanauj was built by one of the Suraja Kings of Hindustan, who were vassals of the Persians ; the Persians under Faridun and Rustam having made India a Persian Province. When one Sinkol came to rule Kanauj, he seems to have become the possessor of a " swelled head " along with a vast army ; and so he revolted, refused tribute, and turned out the Persian ambassador.

The Persian General Peiran thereon invaded India with 50,000 Persian horse, but was outnumbered by the Hindus, and driven to " the mountains." On this Afrasiab, monarch of Persia and Tartary, entered Hindustan with 100,000 horse, fought Sinkol, and pursued him to the " capital of Bengal." Sinkol died in 731 B. C.

The reigns of Maraja, Kedaraja, and Jaichand bring us to Dilu, (or Delu) brother of Jaichand. Dilu built and gave his name to Delhi ; but it is to be noted that Kanauj still remained the capital. These dates, be it noted, are considered by some historians to be somewhat mythical.

Dilu was defeated and succeeded by a rebel named Phoor, whose son, also Phoor, (or Porus of the Greeks) neglected to pay the Persian tribute. This resulted in Alexander the Great, who had just completed the conquest of Persia, endeavouring to extend his conquest to Hindustan. The date of this Macedonian irruption is placed by some at 327 and by others at 330 B.C., and the scene of the battle between Alexander and Porus is laid by various historians at Sirhind, as well as at a spot by the Jhelum, near the present Chillian-wallah.

The result of the fight was against Porus, who was afterwards kindly treated by the conqueror. Other accounts have it that Porus was slain.

After this foreign invasion, Hindustan was left to intestinal troubles alone, during which one Maldeo raised himself to great power, and reduced Delhi ; subsequent to which Hindustan broke up into numerous petty states, continually at strife with one another, and suffering invasions at the hands of Scythians and others from the north-west.

Buddhism is traced to these Scythians.

A period of great length—some eight or nine hundred years—thus elapsed, during which Buddhism began to give way to Hinduism,

and Islam arose with the birth of Muhammad in 570 A.D. Little reliable historical record is, however, to be found until we reach 711 A.D., and come to the early Muhammadan

conqueror of India.

It is not until the sixth invasion of Mahmud of Ghazni that we find interest in Panipat. Mahmud's original objective on this expedition was "Tanassar"—the modern Thanesar is about half-way between Amballa and Karnal, on the Grand Trunk Road—where, he had heard, was an idol named "Jug Soom." After demolishing this idol Mahmud "took Delhi."

On his eighth Indian invasion—said to have been carried out *via* Thibet—Mahmud proceeded from Kanauj against Meerut, and the forts of Mavin, Munj and Chandpal.

Mahmud's ninth invasion took him to Kanauj—*via* Delhi—to defeat Nunda, a rebel.

1030 A.D.

His eleventh invasion was to Kalinjar *via* Gwalior.

Musaud I invaded Hindustan twice, took Hansi, and ruined Sonpat (or Sonepat); demolished idols, and pursued "Deipal" of Sonpat; after which he left Sonpat under a trusted chief, and took all the "countries" between Sonpat and Lahore.

In the year of Hegira 435 the "Prince of Delhi" retook Hansi and Thanesar, and besieged Nagarkot. The Punjab chiefs then confederated, and besieged Lahore; but were defeated.

1079 A.D.

Ibrahim I in 472 Hegira extended conquest to "Ajodin" and "Rupal."

Musaud III sent his adherent Tigha Tiggi to Hindustan, who carried conquest further than anyone save Mahmud, and returned in triumph to Lahore.

1159 A.D.

The Ghori dynasty now appeared, and in 1191 A.D., Muhammad of Ghor invaded India as far as Ajmer. On his return he was met and opposed by the "King of Delhi" with other princes and a force of "2,000 horse and 3,000 elephants" at "Sirauri" (Taraori, between Karnal and Thanesar?) Here Muhammad Ghori indulged in a single combat with "Candi Ra," the King of Delhi, but was defeated by him and pursued for forty miles.

1191 A.D.

Muhammad of Ghor again invaded Hindustan and had another fight at "Sirauri" with the Hindus. This time he surprised and overthrew them, and "settled" the surrounding tracts. His previous slave and now viceroy Kutab-ud-

1192 A.D.

1194 A.D. din took Meerut and Delhi from "Candi Ra" and, later on, proceeded from Delhi to the north, with an army, to aid his master against the Ghakkars.

This same Kutab-ud-din founded the dynasty of the slave kings of Delhi in 1205 A. D. He fought and defeated the Jits (or Jats) near Hansi. It was to his name that the famous Kutab Minar was raised.

Eldoz, the second slave king, was defeated and captured by Altamsh (third of that dynasty) near Delhi. Altamsh fought Aram, son of Kutab-ud-din, for the throne of Delhi in 1210 A. D. This battle was fought within sight of the city and was very hotly contested.

Altamsh marched and fought in various directions, from Delhi as his base.

1225—1231 A. D.

Fighting occurred near Delhi between Firoz I and various rebel governors. Sultana Razia or Rizzia captured Firoz in 1235.

1235 A. D.

Rebel *omrahs* or military chiefs from Lahore fought against Sultana Razia outside Delhi.

The Sultana was defeated and put to death near Kaithal.

During the reign of Bhairam armies passed between Lahore and Delhi.

Musaud IV took an army from Delhi to the Beas against the Mongols (or Mughals).

1251 A. D.

Mahmud II marched with an army from Delhi to Multan.

Ala I sent 40,000 horse from Delhi to Multan, and again sends another army against the Mughal invader Dova.

Great invasion of Mughals under "Cuttulich." They reached Delhi; but were defeated, and finally retired from India.

1298 A. D.

Jirghi the Mughal invaded Hindustan and approached Delhi, camping on the Jumna. His army, however, succumbed to a sudden panic and withdrew to its own country.

1303 A. D.

"Chusero" (Khusru) was defeated and slain outside Delhi by Ghazi. End of the Khilji dynasty.

1321 A. D.

The Mughals under Siri invaded and invested Delhi, but were bought off by Muhammad III (Tughlak).

1325 A. D.

Firoz Tughlak marched to Amballa and Shahabad from Delhi to exact tribute.

Much local fighting near Delhi between Muhammad Shah Tughlak or Tuglak and "Abu Bakar"; followed by a pitched battle at Panipat, when Humayun, son of the Tughlak king, was defeated.

1389 A. D.

On the fifth attempt, however, Muhammad Tughlak secured Delhi, and ascended the throne.

1393--1397 A. D.

Civil wars round Delhi, during the reign of Mahmud Tughlak.

Ikbal Khan, Governor of Debalpur, revolted, deposed Mahmud Tughlak and marched from Delhi on Panipat. Tatar the *subah* of Panipat

left his elephants and baggage in Panipat Fort, evaded Ikbal's army by a flank movement, and proceeded by forced marches to Delhi; and invested it. Ikbal, trusting to the garrison he had left in Delhi, was not to be diverted from his plan of campaign. He continued his advance on Panipat, which place he captured by escalade on the third day. He then hastened back to Delhi, on which the disappointed Tatar fled to Gujarat.

Taimurlenk, Timur the Tartar, "Timur Bec," or, as he is better known, Tamerlane, invaded India *vid* Afghanistan.

1398 A. D.

When he penetrated as far as Panipat, he ordered his army to don their "fighting apparel," consisting of stout cotton quilted coats in lieu of armour; and, to provide himself with more fodder, crossed the Jumna and captured the fort of Lowni. He then marched down the bank of the Jumna, and encamped opposite Delhi citadel. * A sanguinary battle ensued and Mahmud, the last of the Tughlaks, fled. A terrible scene of massacre and pillage followed and lasted for five days. After spending fifteen days at Delhi, Timur turned homeward, taking and sacking Meerut as he went, making a diversion from Panipat for that purpose.

Anarchy ensued at Delhi on the conqueror's departure, although Mahmud Tughlak returned as nominal king; and scattered fights and rebellions continued round and near the capital.

The Sayyid rulers came and went, and were succeeded by the Lodi (Afghan) Kings of Delhi; the last of whom, Ibrahim Lodi, opposed the Mughal invader Babar in 1526 at Panipat.

This engagement is known as the first great battle of Panipat, and here Babar, with a small but well-trained army of veterans, met Ibrahim

15:6.

Lodi at the head of 100,000 men. The battle lasted from sunrise to sunset, and Ibrahim fell with a loss of fifteen per cent. In other histories Ibrahim appears as "Sultan Amwixa," and his host is said to have consisted of "Mahometan Patans and idolatrous Indians"—the presence of the latter being explained by a note explaining that the natives of the country preferred the quiet domination of the Patan princes to the harsh rule of the Mughals, whose avarice and severity they had experienced.

* It should be remembered that this was the present Tughlakabad; an interesting locality, on which rested the extreme right of the position of the Southern Army during the first days of the second phase of the Delhi Manœuvres, 1902.

Firishta relates as follows of this first great battle of Panipat, that, after various skirmishing between the light troops of the combatants (during which all prisoners taken by Babar were ruthlessly put to death in order to strike terror into his enemies) the opposing armies lay within twelve miles of each other; Ibrahim at Panipat, and Babar to the northward—probably near the present Gharaunda. Next day the two armies came within sight of each other. Babar divided his troops into two lines, and four grand divisions; with a body of reserve in rear of each, and some light horse or “herawils” to skirmish in front. Omitting the names and posts of the various commanders, we learn that “the king (Babar) took post in the centre of the first line, after having personally issued orders to his generals.

“The Emperor Ibrahim, ignorant of the art of war, observed no regular order of battle, but drew up his forces in one great line or column of unequal depth, and ordered them to charge the Mugul army, vainly imagining that he could bear them down by sheer weight of numbers. But he found himself soon fatally deceived. So formidable were the Mughal to the Pathans, from their known courage and steady order, that the Emperor’s unwieldy army began to break and turn thin, before they came up to the charge, which was directed at the centre of the Mughal army.

“Those who advanced were repulsed with great bravery, but when they sought to retreat they found themselves surrounded; for the two bodies of reserve in the rear of the Mughal line had wheeled round their flanks, and, meeting in the centre, fell on the rear of those who had advanced to the charge; by which means the Patans were almost all cut to pieces. The reserve, having performed this service, retired to their post in the rear, and the Mughal levies advanced, sustaining various irregular charges from the Indian army, whom they repulsed with great slaughter.

“Ibrahim, at last roused with shame and indignation, advanced in person, followed by the flower of his army, and gave such a violent shock to the Mugul line, as threw it into disorder. Nothing now but personal bravery was left to decide the day; but in this, and the compact form in which the Mughal’s whole force was wedged, they were still superior to the Indians. Five thousand fell with Ibrahim in one small spot of ground. The Pathan army, when their king was slain, recoiled like surges from a rocky shore, and the torrent of flight rolled towards the banks of the Jumna, dying the course of that river with blood; for so far did Babar continue the pursuit; but being wearied with slaughter, he gave hope to fear, and respite to death.

“According to the most moderate accounts there were fifteen thousand Pathans killed in this action though most authors say fifty thousand. Of the losses of Babar we have no information; conquerors having it always in their power to conceal the number of their slain.”

After Babar came his son Humayun, who was defeated by Sher Shah Afghan ruler of Bengal, and who retired to Persia. He, however, returned to India, accompanied by his young son Akbar.

1554.

Hemu defeated Tirdi Beg, Governor of Delhi under Akbar, who fled towards the Indus.

1556.

The second great battle of Panipat occurred just thirty years later than the victory of Babar over Ibrahim Lodi and was actually fought by "Byram," (Bhairam Khan) aided by Zeman (captain-general); Akbar being then only thirteen years of age. In this engagement the Muguls, nominally under Akbar, defeated Hemu (or Himu) the "Wazir of Muhammad the Pathan Emperor of the Eastern Provinces" who had usurped the throne of Delhi; and finally broke the power of the Pathan kings.

From the historian Firishta we learn that the Mughals marched against Hemu from Jallandar and met their defeated *omrahs* including Tirdi Beg, who had lost Delhi. The latter was at once beheaded by "Byram," "who so secured the energy and devotion of the remainder." After this preliminary measure, the Mughal advance on Delhi was continued. On the other side, Hemu, with Lodi and other Afghan *omrahs*, marched out of Delhi. He detached his light troops ahead of him—a great body of Afghans with some artillery—but these were defeated and all the guns captured by the Mughal captain-general.

In the words of Firishta "In the morning of the second of Moharram 964 the captain-general, who had been by that time joined by the whole army except a few who remained to guard the king, (Akbar) drew up in order of battle, and awaited attack.

Hemu having arrived at Panipat heard that the King was very near him, and divided his elephants, in which he greatly confided, among his principal officers. Hemu began the action with these elephants, hoping to frighten the Mughal cavalry, who were not accustomed to those enormous animals. But he was deceived. The Mughal chiefs, either from a fear of the fate of Tirdi, or from a nobler cause, attacked Hemu with such resolution, after he had penetrated to the centre of their army, where Zeman commanded, that the elephants, galled with lances arrows and javelins, became quite outrageous, and, submitting no longer to command, fell back and disordered the Pathan ranks. Hemu, who rode a prodigious elephant, still continued the action with great vigour at the head of four thousand horse, in the very heart of the Mughals; being at last pierced through the eye with an arrow, the greatest part of his troops, fearing that his wound was mortal, forsook him. But that valiant man drew the eye out of the socket, with the arrow; and in that terrible condition continued the fight with unequalled resolution and courage."

"At last a chief named Kulli stretched his spear to kill the driver of Hemu's elephant; and that timorous wretch to save his own life, pointed to Hemu, and, addressing him by name, said he would carry him whithersoever he pleased. Kulli immediately surrounded him with a body of horse, and carried him prisoner to Akbar.

"When the unfortunate Hemu was brought into the presence, almost expiring with his wounds, Byram told the king to kill the

infidel with his own hand. Akbar, in compliance with the advice of his tutor, drew his sword, but only gently touched the head of the captive, bursting into tears of compassion. Byram, looking sternly upon the king, insinuated that the ill-timed clemency of his family was the source of all their misfortunes, and, with one stroke of his sabre, severed Hemu's head from his body.

Akbar took, in this action, fifteen hundred elephants and all the enemy's artillery; he immediately marched from the field and took possession of Delhi."

It may be noted that Akbar was almost an exact contemporary of the English Queen Elizabeth.

It was a few months after this second battle of Panipat that the old Emperor Humayun died from the effects of a fall, actually in his own Mausoleum, a well-known feature of modern Delhi.

During the reign of Jahangir, his rebellious son Khusru marched from Agra to Delhi; and retired from Delhi to Lahore.

Shah Jahan rebelled and there was a big fight near Tughlakabad.
Shah Jahan reigned at Agra.

1623.

Dara, eldest of Shah Jahan's four sons who were disputing the accession, fled with his army from Delhi towards Lahore pursued by Aurangzeb, (the third son).

1658.

Forces under Aurangzeb proceeded from Karnal to Lahore.

1664.

Aurangzeb's peaceful progress to Kashmir from Delhi, *via* Lahore with 50,000 troops.

A war with Persia seemed inevitable, and Aurangzeb assembled a great army at Delhi, and marched towards Lahore. However, the Persian prince Abbas died, and peace was assured.

1666.

Subsequent to Aurangzeb comes the decline of the Mughal Empire and internal wars near Delhi.

Expeditions from Delhi against the Sikhs, whom the Mughals crushed and brutally illtreated.

1712.

Defeat of Jahandar Shah and the Imperial army by Farukhsiiyyar.

1716.

Invasion by the Sikhs; their defeat and oppression.

Nadir Shah the Persian led an army to India and the Mughals opposed him near Karnal. Some considerable fighting occurred but was fol-

1739.

lowed by some sharp intriguing and treachery in the Mughal army, of a highly eastern character; leading to the Mughal monarch meeting

Nadir Shah considerably more than half way. Nadir Shah then placed Delhi under contribution, and there were massacres and other disturbances. Although of much interest, there is no place in these notes for these occurrences. Nadir Shah finally retired, with, it is said, eighty millions of money by English computation.

One peculiarity of Nadir Shah cannot be permitted to escape notice—his discipline. Nadir was a disciplinarian. If any of his generals incurred his displeasure, a mace-bearer would be sent to administer corporal punishment to the erring man at the head of his own troops.

"Fear," remarks Firishta, the historian, "is the strongest motive to a strict performance of duty."

Third invasion of India by Ahmad Shah Durani who in 1757 appeared before Delhi and entered the city practically unopposed, owing to discussions in the Delhi Court. Delhi was then "laid under contribution" which in the English language spells "Loot."

1756.

Durani invades Hindustan again.

1759.

In this year the much dreaded Maratha horse, to the number of 200,000 approached Delhi from the southward, and Ahmad Shah Durani, who was now joined by all the Muhammadans, withdrew across the Jumna and encamped on the opposite bank. The Marathas then sacked Delhi, amid terrible scenes of cruelty; and famine, with cannibalism, ensued among the wretched inhabitants. The Jats—a fickle, predatory lot, whose character to date appeared to partake of small nobility—deserted the Marathas, whom they had joined for the sake of plunder. Durani saw his opportunity then, and marched north, up the left bank of the Jumna, seeking to repass the river and come to action with the Marathas; who kept following him up the right bank.

1761.

The Marathas, confident in their strength, permitted Ahmad Shah to repass the Jumna by the ford of Ramra, but, seeing his boldness, subsequently entrenched themselves near Karnal. Both armies lay in their entrenchments for twelve days, skirmishing now and then with small parties. Meanwhile Durani cut off the Maratha supplies, and at last forced them to march out of their lines.

"The Maratha troops marched in an oblique line, their left thrown forward preceded by their guns great and small. The Bhao with the Peshwa's son and household troop were in the centre. The left wing consisted of the Gardis under Ibrahim Khan; Holkar and Sindhia being on the extreme right.

"On the other side the Afghans formed a somewhat similar line; their left being formed by Najib's Rohillas and their right by two brigades of Persian troops. Their left centre was led by the two wazirs Shuja-ud-Daula and Shah Wali. The right centre consisted of Rohillas under the well known Hafiz Rahmat and other Indian pathan chiefs.

" Day broke ; but the Afghan artillery for the most part kept silence, while that of the enemy, losing range in its constant advance, threw away its ammunition over the heads of the foe, dropping its shot a mile to their rear. Shah Passand Khan covered the left wing with a choice body of mailed Afghan horsemen and in this order the army advanced leaving the Shah at his usual post which was in rear of the line, from which he could watch and direct the battle.

" On the other side no great precaution seems to have been taken except by the Gardis and their vigilant leader, who advanced in silence without firing a shot, with two battalions of infantry thrown back to their left flank to cover the advance from the attack of the Persian cavalry forming the enemy's extreme right.

The valiant veteran soon shewed the effect of French discipline ; another Division such as his would probably have won the day. Well mounted and armed, and carrying himself the colours of his command, he led his men against the Rohillas with fixed bayonets, and put nearly eight thousand of them *hors de combat*. In three hours the Gardis remained in possession of that part of the field. Shuja-ud-daula remained stationary, neither fighting nor flying ; and the Marathas did not attack him. The corps between this and the Pathans was that of the Durani wazir ; and it suffered severely from the shock of attack delivered by the Bhao himself at the head of the household troops. The Pandit being sent through the dust to inform Shuja of what was going on, found Shah Wali vainly trying to rally the courage of his followers, of whom many were in full retreat. " Whither would you run, friends," cried the Wazir, " your country is far from here."

Meanwhile the prudent Najib had masked his advance by a series of breastworks, under cover of which he gradually approached the hostile line. " I have the highest stake today," he said, " and cannot afford to make any mistakes." The part of the enemy's force immediately opposed to him was commanded by the head of the house of Sindhia, who was Najib's personal enemy. Till noon Najib remained on the defensive keeping off all close attacks on his earthworks by continual discharges of rockets.

" But so far, the fortunes of the day evidently inclined towards the Marathas. The Muhammadans left still held their own under the Wazirs and Najib, but the centre was cut in two, and the right almost destroyed.

" The Shah Durani had watched the fortunes of the battle from his tent, guarded by the still unbroken forces on the left ; but now hearing that his right was reeling and his centre defeated, he felt that the moment had come for a supreme effort. In front of him the Maratha cries of " Har ! Har ! Jai Mahadeo ! " were maintaining an equal and dreadful concert with those of " Allah ! Allah ! Din ! Din ! " from his own side. The battle wavered to and fro like that of Flodden as described by Scott. The Shah saw the critical moment in the very act of passing, and he sent five hundred of his own body-guard with orders to drive all able-bodied men out of camp and

send them to the front at any cost. Fifteen hundred more he sent to encounter those who were flying and slay without pity any who would not return to the fight. Then with four thousand of his reserve went to support the broken ranks of the Rohilla Pathans on the right.

"The remainder of the reserve, 10,000 strong, was sent to the aid of Shah Wali still labouring unequally against the Bhao in the centre of the field. The Shah's orders were clear. The mailed warriors were to charge with the Wazir in close order, and at full gallop. As often as they charged the enemy in front, the Chief of the staff and Najib were to fall on each flank. These orders were immediately carried out.

"The forward movement of the Moslems began at 1 P.M. The fight was close and obstinate, men contending with swords, spears, axes, and even with daggers. Between 2 and 3 P.M. the Peshwa's son was wounded, and, having fallen from his horse, was placed on an elephant. The last thing seen of the Bhao was his dismounting from the elephant and getting on his Arab charger. Soon after this the young chief was slain. Next moment Holkar and the Gaekwar left the field; and in that instant resistance ceased, the Marathas all at once becoming helpless victims of butchery.

"Thousands were cut down. Thousands more were drowned while endeavouring to escape, or were slaughtered by the country people, whom they had so long pillaged. The Shah and his principal commanders then retired to camp, leaving the pursuit to be completed by subordinate officers. Forty thousand prisoners are said to have been slain."

Other accounts relate that "the Jats deserted to the Afghans at a critical moment of the engagement, just when victory appeared assured to the Marathas," and that "fifty thousand were slain including all the leaders except Holkar, and thirty thousand killed during the pursuit—which continued for four days."

It is also related that after the pursuit, Ahmad Shah Durani returned to Delhi, placed Jawan Bakht on the throne, under the title of Najib-ud-Daula, and then set out for Kabul.

1761.
1771.

Fighting occurred after this between Najib and the Jats. In 1771 rebellions under Shah Alam.

With this last great battle of Panipat a period may be said to have been set to her warlike tale; although the unsettled state of the country adjoining, under the harryings of the old European military adventurers of Hindustan—chief among which may be named George Thomas, or "Jowraj Jung" as he was called by his people of Harriana—must have recalled, for a time, more stirring days.

1803.

The campaigns of Lord Lake may also have distinctly affected the country between Amballa and Delhi; this being the period of the overthrow

of the Maratha power—with the remnants of the once invincible battalions of the great Frenchman DeBoigne—by the British.

Passing by the Sikh wars, by which the country about Panipat was unaffected, we come to the Indian Mutiny, when history repeated itself 1857. once more, and, yet another time, an army marched by that well-worn bloodstained route, towards the waiting city.

It was in the blazing heat of a Panjab summer that General Anson's column marched from Amballa, *via* the historic Thanesar, Karnal, Gharaunda, Panipat, and Alipur, to the siege of Delhi. At Panipat the column met the contingent of the Rajah of Jhind, who, with other loyal chiefs of the Punjab, undertook to guard the line of advance along the Grand Trunk Road. At Alipur the Meerut column, which had crossed the Jumna at Bhagpat, near Sonpat, effected their junction with the force; and next day, the eighth of June, the siege train caught up the combined armies. This was the date of action of Badli-ki-sarai; where the mutineers were punished, with a loss to them of 350 men and twenty-six guns.

On the 9th the Guides arrived, having made their famous march from Mardan to Delhi, 580 miles in 22 days—which works out to an average of $26\frac{1}{2}$ miles per diem; and later on in August, Nicholson with his reinforcements arrived before Delhi, marching in by the same road from the north.

The pacification of the country later on may have brought scattered soldiery over the grim old battle fields on the Jumna but here the military historian writes "Finis."

Even in the piping days of peace, Panipat seems to have possessed an attraction for the soldier, having been selected as the theatre of operations during the "great Indian camp of exercise" of 1885—the general idea of which comprised the advance of an invading force on Delhi 1885. from the north, and the defence of that city by the movements of an opposing force.

Those who participated in the late Delhi Manœuvres may have derived interest from the knowledge that they were working over classic ground between Amballa and Delhi. Those who may have been inclined to fancy themselves victims of hardship, during a short and easy mimic warfare, would have found silence in a contemplation of the tremendous historic associations of their surroundings, the knowledge of a very small portion of which would suffice to turn one with a smile from one's own imaginary discomfort.

Lying under the stars by one of the numerous life-giving canals, the daily ration assured, comforted by tobacco—not to mention the probability of malt liquor—Panipat is a different place indeed to that ancient arid plain, that fearsome wilderness of sand, insatiable after countless harvests of legions of fallen warriors, strewn again and again with the melancholy remnants of proud armies and enormous followings.

Two thousand five hundred years of history, and, beyond that glimmerings of dim and remote strife, during all of which the cup of human agony must have been filled and drained almost unceasingly on this very plain.

Imagination peoples the quiet night and dark earth with the millions of dead and dying victims of battle, friend and foe, that must have fallen here. Pandava and Kaurava, Aryan and aborigine, Persian and Indian, Scythian, Tartar, Afghan, Mughal and Maratha ; the river hopelessly remote, the burning saline plain, or the chill dry winter blast, with nothing to remind of the vanished armies, in whose ranks, exulting, they have leaped with martial shouts ; and, hovering nigh in the dim scrub and grass, faint shadows—knifing marauder or expectant beast of prey.

Anon the air seems filled with the roar of mediæval battle. A horizon-wide ocean of fighting men appears, passing in endless array, bearing all the strange weapons that the world has known, and clad in an infinity of antique warlike garb. Horse and foot, battalions of elephants clanking by in ponderous armour, strangely caparisoned chargers, and camels resembling travelling fortresses ; the wadded coats of Taimur's Tartars, warriors wave on wave crested by the terror-striking Mughal helmet, the *Bhagwan Jhanda*, standard of the Maratha, bellying black against the dust, spears, javelins, battle-axes, ancient cannon, swords and scimitars, all flashing in far travelling waves of colour, as the hosts roll forward in the beams of the sun new risen over the expectant walls of distant Delhi. While, set unmoved in their midst on her ancient hill, dividing, like some foam-swept rock, the swirling ebb and flow of that warrior tide, gazing down stony eyed through ages of slaughter, rises the enduring Panipat.

HORSE BREEDING IN INDIA.

BY LIEUTENANT F. H. S. BALDREY, VETERINARY DEPARTMENT.

1. Sir John Watson in a very interesting article on Indian Horse Breeding, in the United Service Journal of some months ago, gave as his suggestions for the chief cause of infertility in mares, the fact that the newness of the English thorough-bred strain would not "nick" with the ancient lineage of the country-bred, or rather, that the produce of the English thorough-bred and the Indian country-bred on this account, would be more or less barren. Darwin has proved, that attempts to improve any breed by crossing, and the introduction of foreign blood have always to contend with the variation of sterility in the off-spring. I mentioned this in an article to the "Veterinarian" a year ago and also pointed out, that the extremely foreign nature of the English thorough-bred to the Indian country-bred had no doubt a deleterious effect on the fertility of the stock. I am however unable to reconcile these facts, in connection with the, so frequently seen, infertility of the Arab sire in this country.

2. I take the Province of Sind as an example, where it is very marked (I speak of Lower Sind, principally, where the Balooch element is not apparent). The Horse Breeding Commission says that the Sind breed of horse is a pure type of a local breed, but I fancy, that is because the Horse Breeding Commission did not see enough of the Sind horse, or stay long enough to enquire into his characteristics. It is a well known fact, that the Sind horse received the introduction of a great deal of Arab blood from the shipwreck of a boat containing Arabs on the coast of Sind, some eighty years ago. This Arab cross is very marked in all Sind country-breeds now, and yet Government Arab sires get very bad results from their coverings, the proportion last year being about 10 per cent. of foals to mares covered. This cannot be from a too foreign element in the sire or from newness of the breed. The Arab is closely allied to the Sindi and is without doubt of as ancient a lineage as any country-bred of India.

The highest percentage of foals to coverings was from half-bred English 28.57, which is quite against the theory of newness of breed. Moreover, the cross of English is less apparent in the Sind stock, than in any other country breed of India.

3. Then again, with regard to mule-breeding (I do not know if Sir J. Watson will admit of the breeding of hybrids as an instance in point). The donkeys used as sires in Sind, principally Italian, Cyprian, and Catalanian are the poorest of stock getters. The average last year, per cent. of coverings, was about 10. They are so bad, that

the zimindars, although keen enough on mule breeding, have so poor an opinion of Government donkeys as stock getters, that they think it a waste of time to try them, and so put their mares to their own Sindi stallions. They say, that they got a foal—true, it is inferior, but it brings in a little money, and they cannot afford to let the mare lie idle. This proves that the mare from the cross breeding, mentioned by the Horse Breeding Commission, is not barren. The Sindi owner will tell you that his own Sindi stallion seldom or never fails to get a foal, whereas the Government donkey stallion rarely effects this object, and the Government Arab has a poor percentage. The fault therefore must lie with the stallions, but what the fault is, it is difficult to say, and the Horse Breeding Commission have given us no light on the matter.

4. The using of Sindi stallions has been suggested, but there are none good enough for the purpose; the stock they get is small and inferior, so that to carry out such breeding would be useless for any Government purposes.

5. Considering these facts, the making of any suggestions becomes a difficult matter. This was no doubt experienced by the Horse Breeding Commission, as beyond recommending the formation of a new department (which by the way has been done before by other commissions), they have made no practical suggestions for the improvement of *horse breeding*, having carefully avoided the question of sterility.

6. There is a suggestion which, after what I have said, appears to be a contradiction, but I will explain. It is that nothing but Arab sires and selected country-breds be used, and endeavour to breed donkeys for mule breeding in India. The latter is being done.

The Horse Breeding Commission have noted the utility of the Arab cross previous to using the English, and no doubt they are right; it is the only means to pave the way for the English thorough-bred.

Ruskin says, "very few have the right to any opinion" and especially, as I would say, on this subject, but I think it would lay a sound foundation if nothing but Arab sires were used for the next ten years, to the exclusion of all English and Australian thorough-breds. The Arab is of old lineage and somewhat allied to the country-bred and is therefore the only horse that can be suggested. Selected country-breds are indicated, but their number is too small to be of practical use at present.

I have already said that the sterility in Sindi mares is due to the sires; the Sindi stallion in almost every case succeeds in fertilising the mare. But by continual use of the Arab, the type would become permanently the Arab one, and it is to be hoped that by a process of "natural selection" the variation of sterility would decrease to the Arab sire, as permanence to that type became more established.

Results cannot be expected at once; the mistake that has always been made, is too much haste. We have put in the extreme cross of English thorough-bred before the country-bred was prepared for

it. There are a fair number of mares, whose breeding is fit to mate with the thorough-bred, but in a generalised system of horse-breeding I think it a mistake to attempt to cater for a small minority.

In known instances of an Arab cross or two, there does not appear to be any marked sterility when applying the English cross, and in Australia, where a great number of Arabs have been imported, they have not shown that the cross has caused infertility in the stock.

It would appear that the principle to be aimed at, is the creation of a preponderance of the Arab. When in the Indian country-bred the prepotency of the Arab is apparent, then I take it is the country-bred fit to "nick" with the English thorough-bred.

7. The breeding of the country-bred has undoubtedly enormously improved in the last few years, but the marked sterility which is so prevalent calls for radical change such as suggested in order to render reproduction a permanency:

8. As to remounts, I think the Arab capable of getting animals fully to standard; some of the most useful and shapely remounts I have seen have been by Arabs, and it must be remembered that, at present, he only gets the worst mares. If he had the covering of the mares that the thorough-bred has, I think he would acquit himself equal to, if not better than, the thorough-bred.

NOTES ON THE TRANSPORT OF TROOPS BY RAILWAY IN TIME OF WAR.

BY T. G. ACRES, DEPUTY TRAFFIC SUPERINTENDENT, OUDH AND
ROHILKHAND RAILWAY.

In a paper contributed to "Macmillan's" for February 1902, Lieutenant Colonel Maude points out how the Indian Railways—so far back as 1877—contrived to beat even the best of the German records, during the war of 1870, in the railling of troops to the front.

It may seem then to be hypercritical to find anything to cavil at in the unquestionably greater measure of success which attended the movement—20 years later—of a considerable body of troops. The white sheet of commendation and reward has settled over the written record, and we await with apparent complacency the coming of the next demand. But to those whose close acquaintance with the inner working of that movement enabled them to see below the surface, the sheet must take something of the semblance of a lace covering on a hedgehog. Points undescernible to the unseeing eye stand through the covering, and will assuredly make themselves felt by those to whom the duty will one day fall of grappling with the task again. And when so much may depend upon the temperament of those who feel the sting, and so little is needed to turn the tide of an undertaking of this kind from success to failure—it is impossible for any one who has an interest in the subject, and who knows that the disastrous failure of the French Railways in 1870 was due to friction between the Military and the Railway Authorities, to maintain a contented mind under a knowledge of the existence of those menacing points. It is because of a very keen interest in that part of my profession which deals with the movement of troops in War time—and because I believe that many of those points might, and ought to be pared away, that I have ventured to write this note. The memories of the experiences of '97—'98 are pleasant—the few real passages of arms that did arise have left nothing that has rankled. And so, entirely free from any trace of resentment or vindictiveness—I trust that it will not be possible to read anything of that nature into my notes.

Before proceeding to an examination in detail of the points which it is desired to raise,—and pare away—I would like to mention the hope which I cherish that in incidentally bringing before military readers some of the difficulties which confront the executive of a railway I may be able to lead them to less harsh and hasty pronouncements when, in times of stress, things appear to be going wrong. An officer now in the Political service said to me once some

years ago when he was with his Regiment—"I'm awfully glad to have met you—we always thought the Railway was run by Baboos." If such an impression remains anywhere today I would like to remove it, and to assure soldiers everywhere that our hearts beat just as high as theirs in the cause in which they are going to the front, and that something more than a sense of duty actuates most of us in the doing of our best towards furthering—to the utmost of the capacity at our disposal—the ends which they have in view. It is not of course to be expected that military men, and particularly the regimental officer, can have any adequate conception of what the working of a war traffic over a single line of railway means—but the way would be smoothed for both of us if they could sometimes realise that there was another side—and that the success or failure of the campaign did not depend upon the immediate recognition of the requirements—to us not always quite reasonable—of their own particular unit.

It will I think, be more convenient to divide the subject under the two main railway heads of Coaching—or the troops themselves—and Goods—or the war material—and to deal first of all with the Coaching.

In order to marshal a train that will exactly convey a certain unit—(I will deal later with the reasons for using the word "exactly") a knowledge of the exact composition of that unit is essential. And this was one of the most difficult things to get. It must be remembered that I am dealing particularly now with emergency movements such as prevailed during the Frontier disturbances of '97—and such as may arise again. It was quite the exception to get those details—notwithstanding that we sent backwards and forwards between the Station Staff office and the unit for them—over and over again. It ought to be imperative on someone that this information should accompany the demand for train accommodation. It is a fruitful source of friction—because unintelligible to some—that the train provided for their conveyance should be at variance with their requirements. In consequence of the omission to furnish these details—trains had to be made up according to the scale laid down in the Field Service Manual—and the instances in which that composition fitted in with actuals could be numbered on the fingers of one's hands. The result was that either the shunting off of excess vehicles had to be done at the last moment—giving the train a late start and so throwing it out of its place in the running; or conflict was occasioned by a demand for certification to, or payment for the excess accommodation which as a rule had promptly been utilised for the stowing away of baggage, etc., which the regulation number of vehicles would not hold. I have seen a single horse, for which there was ample room elsewhere, going away in a wagon so packed up with baggage as to be unable to move. And it was put there, so the regimental authorities apparently thought—to justify the presence of that vehicle on the train. The contention which is invariably subsequently advanced is—"Well, if we were not to use the vehicles they should not have been put on the train". They were put on simply because details had not been furnished to admit of an exact composition,

and the Field Service Manual had to be taken as a guide. It is impossible not to have every sympathy with a Commanding officer who, just as he thinks he has the train loaded and everything in, is confronted with a demand either for the payment for, or the release of, excess vehicles. It is in the system which, needlessly, so it would seem, demands such a course that fault is to be found. What can it matter whether the unit takes 28 or 30 vehicles? The cost of haulage is for all practical purposes the same. If the engine load is exceeded it is of course a different matter—but the Field Service tables are, or are supposed to be worked out to engine loads. (They are not in every case—notably between Lallamusa and Rawalpindi and beyond). I have been unable to find in my notes, a single case where a Regiment or Battery took the full Field Service Manual load—so that it is an apparently liberal allowance. Then why can it not be said to a Commanding officer—"You are allowed 2 trains of 30—and you cannot get any more on them. If you want anything extra you must make special arrangements with the railway authorities." Why, if he has got his regiment into two trains of 28, invite conflict between him and the railway authorities by causing the latter to demand payment from him for an extra 100 maunds of baggage, or an extra horse, or an extra 20 followers in excess of his scale? The resulting credit to the Military department from this cheese-paring can amount to but a microscopic proportion of the cost of the establishment maintained to check it. Baggage is the chief difficulty. Whatever the reason may be, it is certain that the vehicle allowance provided will not hold what is usually taken—but if the two trains of 30—or whatever they may be, can take all that is wanted, what useful purpose can be served by haggling over the haulage of perhaps one or two extra vehicles within that limit? Let the adjustment be made on a train basis—and it will not only greatly simplify that adjustment, but remove at once almost all cause of friction. It can in reality matter little, in regard to the rolling stock, from a railway point of view—because the additional vehicles would have to be provided if the Commanding officer certified to the need for them or paid for them—so that the railway could not count on any saving. It may here be objected—"Why in that case does the railway bother about those excesses"? That brings us to the subject of the "Warrant"—and it is under this head that the explanation of the use of the word "exactly" some little way back is to be found.

Most military men know what a warrant is, but few perhaps know that it forms the basis for the adjustment of the charges for accommodation provided between the Military and the Railway departments. Now the Examiner of Commissariat Accounts will not look at a warrant unless column five giving the actual details of the unit requiring conveyance is filled in, and the certificate at the foot of the form to the effect that the accommodation as required by column 5 has actually been provided is signed by the Commanding officer. If by fortunate circumstance those requirements have been complied with—he next turns to the reverse of the form where details of the accommodation which has been provided are furnished—and

unless every seat and every axle of the accommodation can be justified by the details in column 5, his interest in that warrant ceases—until the two are made to coincide. Those are not the only grounds upon which objections are raised—but they are all that concern us for the moment.

Regiment after Regiment—Battery after Battery came down to the Rawalpindi station for despatch without a warrant. The invariable reply was—"It will be all right, I'll send it tomorrow—frightfully busy, etc."—But tomorrow did not come for many days after, and eventually when the warrants were obtained by an official sent to the office to stay there till he got them—it was impossible in nine cases out of every ten to reconcile the details which they contained with the composition that went away. When it is stated that at the close of the operations over three thousand separate files of correspondence arising solely out of warrants "objected to" existed in the Rawalpindi railway office alone, some idea of the worrying correspondence which is involved in this apparently simple matter will be gained—and perhaps some sympathy aroused for the inability of the railway man to take the same light-hearted view of the absence of the warrant as the soldier does. To take one of the most common cases—that of the Military Accounts department objecting to pass a warrant because the details giving in column 5 did not justify the amount of accommodation provided and billed for. Back it comes to the Railway office for explanation. The Station Staff office can give no information, and suggests reference to the Officer Commanding the Regiment. The regiment is on service and the chances are that to send the warrant through the Field Post office to the Commanding officer to get it rectified means either losing it altogether, or at any rate failing to get any reply for months, if at all. Eventually the Staff officer is applied to for a copy and the case begins afresh, and so the interminable correspondence goes on. The Military accounts office will not relax—the Railway Audit office will not remit,—and the Railway despatching officer is made the butt of the conflict. Is it any wonder then if he views these warrantless despatches with misgiving, and their recurrence with diminishing complaisance.

The remedy would appear to lie in the suggestion already made of a train basis for adjustment. If a train basis cannot be accepted on the lines of the Field Service Manual, then why not a vehicle basis subject to the maximum laid down in the manual? Recognizing that the Commanding officer has quite enough to do at the time with his own legitimate work, there would be little difficulty in the Railway Transport officer certifying that the train which went away was composed of a certain number of vehicles; and his certificate ought to be sufficient authority for the adjustment of the charge. If the Commanding officer can take his command away within the limit allowed, what further question need be raised!

As I have said before, any saving there might be would be microscopic, and the Railway authorities in their pressing need for rolling stock might be trusted to keep a watchful eye on anything like wasteful running. A few excess vehicles—that is those the running of which might have been avoided—may get away, but it is

almost sinful to invite friction on that score. How is a breakdown, or a failure to put a body of troops in an emergency at a required point within a given time to be measured by rupees, annas, and pies?

There is another irritating document which the regulations require a Commanding officer to sign in triplicate. It is what is called the "Damage Memo," detailing any damages which exist in the vehicles on the train at the time it is made over to the Military authorities, and is designed to admit of the fixing of responsibility for all further damages which may be found to exist at destination. There are, I imagine, few outside the circle of those going by the train, who have witnessed, without sympathy, the efforts of a railway clerk to get someone to sign his "damage memo". Railways carry millions of passengers annually without requiring the signature of any such documents—and their losses in this respect are not one whit heavier in connection with troop movements than they are with ordinary passengers. The use of this form might well be done away with, and Railway transport officers might be empowered to deal with cases of obviously wilful and excessive damages such as could not be fairly included under a liberal interpretation of fair wear and tear.

Without any very definite information as to the functions of a Railway Transport officer—from a railway point of view—it is only possible to deal with those circumstances in which such an officer could be a tower of strength to the railway official. At the outset, however, one is confronted by a very apparent defect in the system of appointment. At the first sound of war's alarms the man who has held the appointment and has gained some useful knowledge of the work—either rejoins his regiment or gets some other appointment—and a new and possibly untrained man comes in to be a source of weakness instead of strength because, owing to his ignorance of regulations and usages, and his consequent inability to decide off-hand questions raised by Commanding officers, he appears to give weight to their objections and so promotes, or gives ground for conflict. A couple of examples out of many—by way of illustration :—A British regiment was being entrained late one night, and the men were put into the carriages 5 to a compartment instead of 6—with the natural result that when the train was filled a number of men were left over. The accommodation was in reality more than enough—but the Adjutant and the Railway Transport officer were sent round the yard to find the Railway Superintendent and tell him that there was not sufficient accommodation on the train—and the Superintendent had to leave his work and go back to see to the difficulty and to be permitted in the meanwhile to listen to unthinking and irritating comments on the efficiency of railway management generally.

On another occasion the Superintendent had to be called in by the Railway Transport officer to settle a disturbance caused by a junior Medical officer—whose anger was unbounded because somebody had dared to put horses into "his" horse box, and so prevented him from storing his surplus baggage and effects in the

vacant stalls. It mattered not to him that the somebody was the Officer Commanding a company of Sappers and Miners going by the same train—it was “his” horse box and he meant to have it. These are trivial instances it is true, but they serve to shew the value of an untrained Railway Transport officer as a buffer between the Military and Railway authorities. Whether he is meant to be such a buffer or not, it is apparent that an experienced and tactful Railway Transport officer could have settled those two differences out of hand, and so have obviated the need for any contact between the two authorities. In addition to such defects of inexperience remediable by making the man who takes up the appointment stick to it in time of stress—there were other defects which seemed to be due to a want of sufficient rank. The example which stands out beyond others in this respect, is one which frequently arose—that of trains arriving at destination during the night, and Commanding officers refusing to detrain their men till morning. In times such as are here contemplated a railway has to calculate on every axle it has command of—and it follows that it must at times depend upon getting back within a certain time and to a particular station certain stock which has gone forward. If that stock is not released when it ought to be, it cannot get back in time—(the calculations are frequently very fine) and the requirement for which it was destined cannot be met. What is the result? The failure to release it is but a choleric word—the failure to meet the requirement at the other end rank blasphemy—throwing a cloud over any amount of good work done before. A junior subaltern has little chance against an irate and determined Commanding officer in a case of that kind—even if he stands his ground when he finds difficulty arising—which as a rule he has the wisdom not to do. On several occasions it was not until the Locomotive was put at the other end of the train and whistled preparatory to starting, that the Officer Commanding, finding that the Railway official meant what he said, consented to take his men out. And the feeling on this subject is not confined to Commanding officers. A General came down on one occasion to remonstrate against a refusal to allow trains conveying a British Cavalry regiment to stand in a busy yard till morning. He declined promptly to take any responsibility himself for any accident to the trains or to the men in them, but he appeared to regard as a bit of obstructiveness the refusal of another to take the responsibility. If a regiment can entrain at night—and they did it over and over again—there would not appear to be any very great reason why the simpler operation of detraining should not be done at night. It is scarcely fair to expect a railway working to its utmost limit to give up two or more of its sidings in a busy yard to the stabling of such trains and in addition take the risk of their being pitched into, or of soldiers leaving the carriages and being run over.

For those reasons—I think that if Railway Transport officers could be officers of a rank and experience which would enable them to appreciate the requirements of the situation and to stand up to Commanding officers, another possible ground for friction would be eliminated.

With Hospital trains bringing back sick and wounded, the case is of course different and must be met—but what is to be said for a Medical officer who framed a lengthy indictment against railway management because a “covered-in” station was not specially erected in which he could transfer the sick and wounded from the carriages to the doolies alongside.

There is one other point under the head of Coaching—a minor one it is true—but still one that it is well to reckon with. It is the spirit in which suggestion, or what is regarded as “interference by railway officials” is not infrequently met. It is best expressed perhaps in the expression far too often heard. “Who the devil are you Sir”. Apart from considerations of ordinary courtesy, it is perhaps possible to find some excuse for it in the not very impressive appearance of a man in mufti who has probably not been off duty for days, and who has perhaps—if there have been breakdowns—been taking what sleep he should get lying on the ballast. Possibly also the Commanding officer has been irritated by other matters. But it doesn't help. The other man is very likely not in the best of humors either, and his reception is not calculated to bring out what is best in him, or best for the matter on hand. The Regulations provide for an uniform being worn by Public Works men on field service—and it would be well to reckon—at any rate the Frontier railway—as service on such occasions—and so ensure railway men carrying some easily distinguished indications of rank and authority. It would go some way, I am confident, towards saving both Departments from an unpromising start in case of contact.

Granted that much must occur irritating to both sides—it is not difficult to see how much better for both, and how much more likely to contribute to success it would be, if, when things seemed to be going wrong, mutual offers of assistance were made and received in the spirit of men working for a common end. This, it is pleasant to recall, did occur whenever there was personal acquaintance—from which it would seem to be a fair inference that the end in view would be greatly contributed to if it was as easy for the Commanding officer to distinguish at sight the Railway officer in authority as it is for the Railway officer to distinguish the Commanding officer.

That some angry clouds were harmlessly dispersed was due to the unflinching consideration and support giving by the General Officer then Commanding at Rawalpindi, and his Assistant Adjutant General. It is greatly to be hoped that the next man who has the task of steering a war traffic through may be equally fortunate.

The questions affecting Goods—or Material—are practically confined to Commissariat stores, and transport animals. The most satisfactory Department to deal with was the Ordnance. Their requirements are of course comparatively small, but there is a business capacity about this Department which makes working with them easy and pleasant. I do not think that throughout the operations there was the smallest approach to antagonism. With the Commis-

sariat Department, however, things were not quite so easy. The personnel of this Department suffers in much the same way as the Railway Transport officers. Men who have held charge get off to the front and new men come in hurriedly from down country to take up the threads of the work when its strain is heaviest. The officer in charge at Rawalpindi came, it is believed, from Madras. There was a perceptible tendency amongst subordinate ranks towards making the railway the scapegoat for occasional shortcomings—as an instance of which (one only out of many) may be quoted the culminating case of a “most urgent” representation to the effect that despatches which it was imperative should be made that night were being delayed for want of rolling stock—and that the consequences would be most serious. An examination of the Commissariat yard made immediately after the receipt of this communication revealed the fact that there were no fewer than 54 wagons standing there—the majority empty and the balance loaded with inward stores—and further that they had been there for hours. No attempt was being made to get this very important despatch off, and it was certainly not the fault of the railway that it did not go for 24 hours afterwards. These facts were promptly brought personally to the notice of the General Officer Commanding—and thereafter there was peace—but whether the transaction just quoted would have had the same complexion in the records of the Department, as the action taken by the Railway authorities gave, is a question which had perhaps best be left open.

These however were comparatively minor matters. Much more serious was the state of affairs at the discharging points. In the delivery of commissariat stores the rule is that the railway unloads from the wagons and stacks in convenient form to admit of check and delivery—and the Commissariat Department takes over and removes. It will be apparent that unless the unloading ground is extended indefinitely—an impossible contingency—the pace of the work is the pace of the Commissariat Department in clearing the grounds. Things went on smoothly for a time, a fair proportion of stores, transport animals and carts going forward, when suddenly—as the result apparently of communication between the controlling authorities, one at Lahore, and another somewhere on the Himalayas—the forwarding of stores was pressed to the exclusion of all else:—transport animals were to be turned out at Rawalpindi and made to walk 80 miles in order that stores might go faster—at least 12 trains were to be run”. Well 12 trains were run—and what was the result? When the Commissariat men turned out in the morning, they were confronted by a perfect sea of bags and bales which railway men by working all night had created and shortly afterwards a telegraphic refusal to take the stores over—finishing with the demand—“now what are you going to do”—was received. “Not send any more until you do”, was the reply, and the stores were taken over to the accompaniment of a strong “protest against the want of consideration shewn”!! One's sympathies go naturally with the Commissariat officer in charge. The transport animals which he wanted to take stores forward and keep his grounds as clear as possible were given an 80 mile march, to

arrive beat up at the point where their work was to begin—and a very serious railway block was only averted by the splendid work of the men on the spot, in order that stores might go forward at a pace which made efficient working impossible and which was, as subsequent events shewed, not necessary. Hundreds of tons of those same stores lay for months where they were stacked and were eventually shipped off by rail to another station. Trains of transport animals are the easiest of trains to deal with—unloaded in a few minutes, they can be on their way back in half an hour—and so give room in the working for quite as many store trains in addition, as could be conveniently dealt with.

These details are quoted solely to show the perpetual state of tension that was involved—tension that could have been avoided almost altogether if the Executive officers had been left more latitude of action. It is recognised that Executive officers of one section cannot be controlling officers of the whole, but it must be evident that the harmony of their working—so essential to success—must be imperilled by the directions of men who are themselves not only hundreds of miles distant from each other, and from the point of discharge, but are of necessity out of touch with the perpetually varying condition of affairs there. The measure of the work at rail head must be the measure of work throughout the line. Any attempt to force over the road an excess over that must cause a buckling up somewhere, and that is precisely what happened. Running 12 to 15 trains a day must result in constantly varying conditions at the discharging point. A deficiency of transport animals at one moment might in a couple of hours by the arrival of two or three train loads of them be converted into a surplus. The telegraph wires were choked; "clear the line" messages often taking 24 hours to cover less than double that number of miles—so that it is quite possible that the controlling authorities were some 24 hours behind with their information—and even if the orders they then issued were workable at the time they were sent off, they were either quite impossible or entirely misleading by the time they reached their destination, and so gave rise to friction between the executive officers.

The remedy would seem to clearly lie in the location of the controlling officers either at the point of discharge or at such convenient place near to it as would enable them to have a constant and intimate knowledge of the condition of affairs there. If discharges are being made at more than one point—then the parting of the ways would seem to be the best place—efficient record of what is passing could be readily maintained and a few moments conversation on the railway instruments could clear up any doubts and give the lead for the transactions of the next 24 hours at least. If for no other reason the immense saving in telegraph charges would compel consideration—the bill for messages sent from one point alone is believed to have been enormous.

It is solely because of a desire for a still greater measure of success to attend us in the next call that is made that I have made this

effort towards clearing the way of the corners that were met with. To the arm chair critic it may possibly seem that mountains have been made of molehills—but such appeals as these notes contain will lie to men who have been there—and who know what changes are possible, when the tocsin of war sounds, in the temperaments of those for whom active service is in prospect—and in those for whom such joys are not.

MARCHES.

LECTURE DELIVERED

BY LIEUTENANT-COLONEL RENNY, COMMANDING 7TH BENGAL
LANCERS, AT FYZABAD.

In all campaigns the most constant and common operation, and one of the most important, is marching. The great aim of a commander is to place his troops in a position giving him an advantage over his enemy. It is not enough that certain points should be reached. They must be reached at certain definite times, and the troops must reach them in good condition, and well supplied with ammunition and every other necessity for campaigning. The most skillful arrangements of a commander may come to naught, or may lead to disaster, if the troops do not reach an intended point, or reach it too late, or even too soon, or if their supplies and reserve ammunition are not up. It is thus evident that a very great deal may depend on the proper execution of a march.

Marches have often to be carried out where there is no chance of interference by the enemy. Under these circumstances the main consideration is to spare both men and horses all avoidable discomfort and fatigue, and to keep them fit. Should the force be a large one, if practicable each arm of the service, also the train, should have a different road allotted to it, to avoid the inconvenience arising from different rates of marching, and from the different requirements as to road and distribution of time on the march. The best roads should be reserved for the guns and train. If the guns and train have to march through bad ground they may have infantry interspersed with them, to assist in hauling them, and getting them over obstacles. If only one road be available, cavalry, mounted infantry and artillery should as a rule precede infantry, as they march at a quicker rate, and they have more to do on arrival in camp or bivouac. If, however, the road is likely to be much cut up, the infantry may march first. In some countries infantry and cavalry may march off the road, leaving the latter for the artillery and train.

On the daily marches regular halts should be observed. Long halts of half an hour or more, one in an ordinary march about half way, rather more than less: in long marches over 15 miles one after every 2 hours or so. Besides these, in the infantry short halts of 5 minutes are recommended every hour. In all cases a short halt half an hour out is advisable to enable men to rearrange belts and

accountrements, and in mounted corps to tighten girths. Advantage should always be taken during a halt to look round horses' feet, harness, etc., and to ensure this being done a report should be required by unit commanders.

In this country in very hot weather it may be advisable to march by night, especially if the roads are good and there is a moon, or long marches may be divided into 2 portions, half being covered in the morning and half in the evening. In the case of marches extending over several days a halt for a whole day is required at intervals to recruit the strength of men and horses and transport animals, and to allow of the repair of material.

Everything should be done to keep unimpaired the efficiency of men, horses and transport animals. Except when they are carried for purposes of training, all articles not absolutely necessary to be carried by men or horses should be conveyed on wagons or pack transport, or even on occasion by rail. Arrangements should be made for giving the men some food before starting in the morning, and as soon as possible after arrival in camp. On a long march something in the shape of a "coffee shop" is required at one of the long halts, or the men should carry some cooked rations with them. Similar care must be taken that horses and transport animals are regularly watered and fed.

In the cavalry it is now laid down that men are to dismount from time to time on the march, and lead their horses. On a long march this really eases not only horses but men. It should be a standing rule that horses are not to be mounted nor baggage animals laden up till they are required to move.

A general rendezvous of a force preparatory to marching off is not required and only entails useless covering of ground and often confusion. Each unit should parade at the most convenient spot in time to take its proper place in the order of march.

It is often convenient to state in orders the exact time the head of each unit should pass a given point on the general line of march and care should be taken that different units do not cross each other's line of advance. To ascertain these times it is useful to remember that roughly a battalion in column of route will pass a given point in about 5 minutes, a battery in 4 and a squadron in 2.

The rate of marching varies with the arm and the nature of the road, and is affected also by the weather and the fitness or otherwise of men and horses. The larger the column, the slower is the pace. Under favourable circumstances the rates are for infantry, including short halts, $2\frac{1}{2}$ miles an hour, for cavalry and horse artillery, walking and trotting, 5 miles an hour, field artillery 3 miles, mule transport 3, camels and bullock carts not more than $2\frac{1}{2}$.

Every precaution should be taken to ensure men and animals getting their proper rest. All noises in camp between "lights out"

and *réveille* should be sternly repressed. Sanitary matters should also receive due attention.

All the above remarks, as far as they are applicable, also hold good in the case of marches within striking distance of the enemy.

The length of an ordinary march on a good road may be taken at from 12 to 15 miles. The actual halting places are determined chiefly by the facilities for water, supplies and camping grounds, and in the case of marches within striking distance of the enemy by tactical considerations. When feasible, it is as well to commence with a few short marches, so as to get men and horses into condition, should they not have been already prepared for the march by steady work, and to get the marching arrangements generally into working order.

Complete and timely arrangements are required for supplies. In some places they may be collected from the surrounding country, in others they may have to be requisitioned, in others again they may have to be carried with the force. (By requisition is meant the forced supply by the inhabitants either on payment or without payment of anything including labour, required by a force operating in either a friendly or a hostile country. A forced supply of money is known as a contribution. In 1870 the Germans found it convenient to raise contributions in France, and buy for cash with the money thus obtained. It is generally recognized that even in an enemy's country it is more satisfactory to make requisitions on payment. If cash is not available, payment may be by bills to be met when convenient or at the termination of the campaign.)

Very careful attention should be paid in view of a march and during a march to the men's feet, boots and accoutrements. In the German army a foot wrap of cloth is used instead of a sock. The feet may be rubbed with a mixture of tannin 1 part to zinc ointment 20 parts. Greasing the foot is recommended. To harden the feet whisky or other spirit may be applied to them or a strong solution of salt and water or alum and water, but steady walking is the best method of hardening them.

In mounted corps the stuffing of panels and the fit of saddlery generally require looking to. Good maps and full information about the route to be followed are indispensable. Guides may have to be provided. Care should be taken that the maps are brought up to date. Names of places in this country have a way of altering. In many parts new railways, roads and bridges exist, which are not marked in maps a few years old. In this connection it may be mentioned that much confusion may result from the way in which the names of towns and villages are in this country repeated even in the same district. In 1870 complaints were made on the French side that the troops were well supplied with maps of Germany, but very poorly provided with maps of France where the operations really

took place. From South Africa too have come complaints of the paucity of maps and the unreliability of those provided.

Roads may have to be put into good order and bridges repaired. When unbridged rivers have to be crossed, timely arrangements have to be made for the collection of large boats ; and unless plenty of these are provided, the passage of a force of any size over one of our Indian rivers is a very tedious business and may take days.

When the enemy has to be reckoned with the main consideration in arranging marches is to keep the force in constant readiness for fighting. The order of march should be such that the different component parts of the force can come into action in the order in which they are likely to be required. It would therefore vary with the nature of the country and of the enemy. In an ordinary open country the bulk of the cavalry, if not required for some specific operation, would probably cover the advance in reconnoitring formations at some distance ahead of the main body. The duties of the cavalry thus disposed are to find out all about the movements and disposition of the enemy, and to prevent the latter from learning anything about their own army. As an example may be cited the advance of the 1st and 2nd German armies in 1870 from the Saar to the Moselle after the battle of Spicheren. The advance was covered by the 5th and 6th Cavalry Divisions. Quoting from "Borbstaedt and Dwyer"—"a dense curtain of cavalry was spread from Saar Union to Les Etangs spreading dismay and insecurity among the inhabitants and boldly sending single patrols close up to the walls of Metz. Owing to the presence of these wide spreading feelers the corps d'armée were enabled to pursue this march 20 or 30 miles in rear with greatest security, and without running the slightest risk of being checked by the sudden appearance of hostile detachments.....In addition the German Head Quarters were enabled by the numerous reports constantly coming in from the cavalry patrols to form an accurate judgment as to the position and probable designs of the enemy, while the French Head Quarters, though carrying on operations at home, when they should have been able to reckon on the assistance of the inhabitants in obtaining information, remained in perfect ignorance as to the marches and probable designs of the enemy and frequently had not the slightest idea that large bodies of German troops were quite close to the French positions."

The main body of the army would advance covered by an advanced guard and flank guards and possibly a strong Rear Guard would be necessary.

The strength and composition of the advanced guard varies with the nature of the country and other circumstances. Ordinarily its strength might be from $\frac{1}{4}$ th to $\frac{1}{3}$ th of the force from which it is detached and it would be composed of infantry, cavalry, mounted infantry and machine guns with the addition of artillery in the case of a large advanced guard.

The disposition of the advance guard is effected in accordance with the following general principles. Furthest away towards the enemy patrols are spread out to thoroughly search the country and guard against surprise. Nearer the main body are formed bodies to push back the enemy's advanced troops, to check him if in superior force so as to give the main body time to get into order of battle, if he is retreating to endeavour to delay him until the main body comes up, or at any rate to harrass him as much as possible.

The distance the advance guard is ahead of the main body should be sufficient to give the latter time to deploy for action before the advanced guard is driven back on to it by a superior force: at the same time it must not be so far as to risk being cut off or overwhelmed.

As regards the order of march of the main body—the artillery should be well forward so as to be able to come rapidly into action, its fire being needed at the very outset of an engagement. As, however, artillery is defenceless on the march, it is usually advisable to have some cavalry or infantry at the actual head of the column.

Some Engineers should be with the advanced guard or at any rate near the head of the main body, so as to be at hand to destroy obstacles, repair communications, prepare defences, etc., if required.

Should the country be very close and intersected and unfavourable to cavalry action, the cavalry might follow in rear of the other arms.

Some mounted troops should, however, except in very mountainous country, march at the head of the column for patrolling escort and orderly duties.

An Infantry Division marching on one road requires some 1½ hours to deploy on its advanced guard. Thus if the force be a large one, and it be marching in one long column, it would take many hours to form in order of battle. To shorten this time it is advisable to reduce the depth of the force by dividing it into 2 or more columns marching by roads as nearly as possible parallel to one another and at such a distance apart as to be able to afford each other mutual support.

These columns should be to some extent independent, that is to say, each should have a proportion of the 3 arms; but the actual distribution would depend on circumstances. Care should be taken to equalise the march of the several columns, so that they may preserve an even front.

If the country admits of it, the columns may move across country, or leave the roads to the guns and transport train as was done by the Russians in the campaigns of 1866 and 1870.

As regards baggage and train the troops should be accompanied by their immediate requirements for the battle-field, the remainder being kept in rear and separate from the combatant portion of the columns. Thus in the case of a column operating on the Indian frontiers, each battalion is usually followed immediately by its battalion ammunition reserve, entrenching tools, water mules, signalling equipment and field stretchers, while in rear of the combatant portion of the column follow the Brigade Ammunition reserve, Field Hospital, staff and regimental baggage including supplies in regimental charge, in order of march of corps, Commissariat and Ordnance godowns and spare animals.

A Rear Guard to a force advancing is required chiefly for collecting stragglers, helping on broken down transport and keeping off marauders. It is sometimes advisable to have with it some sick transport and a medical officer.

With a hostile population and especially in mountainous country like the Indian frontiers, where one never knows from what direction the enemy may not suddenly appear, not only a strong Rear Guard, but also Flank Guards, where feasible, are required. In passing through defiles, where flank guards could never keep up or possibly get on at all, it is perhaps the best arrangement to start with a very strong Advance Guard and push on from it at intervals temporary piquets, which are withdrawn when the column has passed, and rejoin the Rear Guard.

Flank Guards are always necessary in the case of very long columns. They would be disposed as patrols with supporting bodies between them and the main body abreast of which they would move.

In a retreat, under ordinary circumstances the order of march would be in a general way the converse of that in an advance; that is to say, the trains would move off first, followed by the troops, in rear of all being a strong Rear Guard, composed of the best and freshest troops.

The strength of the Rear Guard would be stronger than that of an Advance Guard, and might reach $\frac{1}{3}$ of the total force. Its duty is to check a pursuing enemy and prevent his interfering with the march of the main body and trains. This is effected more by offering than by giving battle, by occupying a succession of defensive positions covering the line of retreat and retiring from those positions when too hard pressed, or when the distance from the main body becomes too great. It must be borne in mind that while the Rear Guard is halted the main body is moving further and further away.

A Rear Guard cannot ordinarily afford to make offensive movements, as these would separate it still more from the main body, and render it liable to be cut off. The Rear Guard should be composed of all the 3 arms, but mounted troops and artillery, in particular Horse

Artillery, are especially necessary. Mounted infantry would be most useful as they could effectively occupy a position to the last and then retire rapidly to a fresh position. The Officer Commanding the Rear Guard should send an officer on ahead to select the defensive positions alluded to above, and to arrange for their occupation. The positions should be such that they can be easily held against superior numbers and at the same time can be easily retired from.

An Advanced Guard of small dimensions, including a detachment of Engineers, would precede the force, chiefly to repair or improve the communications. Engineers should also accompany the Rear Guard to arrange obstacles, blow up bridges and otherwise delay the enemy's advance. Timely arrangements are necessary for these matters, or they may be put off till too late.

On some occasions, as in a hostile country, or when a fresh hostile force is advancing to cut off the retreat, a strong Advance Guard may be necessary and it may also be necessary to march the trains in the centre of the column.

The position of the Commander of a force on the march is a matter of considerable importance. It should be known to all and therefore should be published in orders. In an advance the Commander should either head the main body, or be with the Advanced Guard, so that he may get the very earliest information from the front and yet have his whole command in his grasp. Of course he should not interfere with the detailed disposition of the Advanced Guard, which should be left to its proper commander. In a retreat his position would ordinarily be in rear of the main body.

It is of the greatest importance that thorough arrangements should be made for the rapid transmission of orders and intelligence between the various portions of a force on the march. When there are fairly good roads cyclists might be very useful for this purpose.

Now for a few words on flank marches. By a flank march is meant a march across an enemy's front. The object of a flank march might be to seize some point of vantage, to turn an enemy's flank, or to effect a junction with another force. The distribution of a force for a flank march should be somewhat as follows:—nearest the enemy a strong flank guard, preferably of mounted troops and artillery to cover the march, then at a certain interval the main body and furthest away from the enemy the trains. The 3 portions should move ahead of each other so that the main body and trains are always covered by the flank guard.

The object of a flank march being to reach a certain point, an action en route should if possible be avoided. A flank march should therefore be made as far from the enemy as possible, and if possible under cover of an impassable obstacle and precautions should be taken to ensure secrecy and rapidity of movement.

Examples of flank marches may be taken from 2 of Frederick the Great's battles. At the battle of Leuthen, between the Prussians under Frederick the Great and the Austrians, the Austrian army was in position and the Prussians were advancing against it. On arriving about 3 miles from the Austrian position the Prussian advanced guard pressed on for a certain distance, under cover of it the Prussian main body took ground to its right, the movement being covered also by the nature of the ground and the dull weather. When opposite the Austrian left, the Prussians wheeled into line and attacked, turning the Austrian left flank. The Austrians made an attempt to change their front, but it was too late and they suffered a severe defeat.

At the battle of Kolin, between the same adversaries, Frederick the Great attempted to march round the Austrian right flank, at a distance of only from 600 to 1,000 yards, the Austrians being in position. In this case the Austrians could see what was happening and assailed in flank his columns which lost touch with each other, and the flank movement collapsed, the Prussians being defeated.

Lastly as to night marches. Night marches in time of war have many disadvantages. In addition to Night marches. depriving men and horses of their rest, all kinds of confusion and panics are liable to occur ; columns may miss the road and friends may be mistaken for foes.

With all this they are on occasion most useful. The retirement from a position that has become untenable, or that has to be evacuated for any other reason, is generally most safely effected under cover of darkness. How often in South Africa have the Boers not got clean away, bag and baggage, during the night? A night march may give the only chance of forestalling the enemy at a river crossing or other point important from either a strategical or tactical point of view. It is held by some that night attacks will be largely resorted to in the future to minimise the effect of modern fire-arms in the defence, and these will necessitate night marches. They may succeed very well against inferior troops, but with a foe of good morale, who keeps up a proper system of outposts, a night march must always be a hazardous proceeding. The most successful night march of late years, that on Tel-el-Kebir, was exceptionally favoured by the nature of the ground, admitting of the advance of the force on a broad front, and the wretched outpost arrangements on the part of the enemy.

In the arrangements for a night march with a view to an attack the following points should be looked to:—

The ground to be traversed should be carefully reconnoitred, and care taken that the columns are led by thoroughly trustworthy guides, who know their way over the ground by night, as well as by day. Precautions should be taken to check the direction by ascertaining the compass bearing of the enemy's position, and by noting landmarks which could be used by night.

As mounted troops and artillery are of little use in darkness, and moreover make a good deal of noise, particularly the latter, while on the move, they should march in rear of and quite separate from the infantry. The noise of accoutrements and gun gear may be to some extent lessened by judicious wrapping with cloth, as has been done by the Boers in the present campaign. In accounts of old campaigns too we read of gun wheels having been enveloped in hay and straw to deaden the sound.

The infantry should be preceded by an Advanced Guard with a few scouts in front, preferably of infantry, though the Infantry Drill, 1896, recommends cavalry. The main body of the infantry which should follow the Advanced Guard at short distance should be disposed as assaulting column, support and reserve in such manner as to admit of as rapid deployment as possible.

As soon as the enemy's position is approached, the distance varying according as dawn is at hand or not, the columns must deploy. It is a most important matter when and where this deployment is carried out.

The advance of a deployed line in the dark is a very difficult matter, as it is almost impossible for all parts to keep their proper intervals or direction. On the other hand on no account must the opening day find the troops in column or in close formation within effective range of the enemy's position.

Communication between the different columns and portions of columns should be kept up, and arrangements made for concerted action by means of rockets or otherwise. To avoid the difficulty of effective co-operation there should be as few columns as possible.

Every precaution should be taken to ensure secrecy and to hide the march from the enemy. The troops themselves should not be told of the intended march till the last moment, no lights or smoking should be allowed, no arms should be loaded and strict silence should be enjoined. At Tel-el-Kebir it is said that buglers were not taken.

When the enemy has once been alarmed, the action of the artillery and mounted troops would depend on circumstances. The mounted troops might move off to threaten a flank or cut off the enemy. If day is breaking, both artillery and mounted troops would hurry up to take up their respective rôles in the impending action.

As regards the most suitable weather for a night operation—a clear star-light night is best for the execution of the march: unfortunately it also gives the enemy a very good chance of discovering the same. With either a large or a small force a somewhat unsettled state of weather seems to promise the best chance of success.

Having now briefly touched upon the main considerations which, in my opinion, should be borne in mind in the arrangement and conduct of marches of various kinds, I have only to add that I have endeavoured to put forward such views only as are generally accepted, and as can at any rate be supported by both common sense and experience.

EMBARKATION OF GUNS ON PONTOON; TO BE CARRIED OUT BY SECTIONS.

BY MAJOR C. T. ROBINSON, R.A.

I. Sections will move up as close to the landing stage as possible, reversing and halting about 2 yards interval between gun wheels.

II. No. 1 will go on to the raft and see that all is correct, transom and barks in position, etc.; teams to be unhooked at once by Nos. 4, 5 and 6, who will then assist in unharnessing and putting harness on raft.

III. The remaining Gunners will place guns and then limbers on raft; gun muzzle leading, limbers poles leading, lash pole to gun, and gun and limber wheels.

IV. Meanwhile, Drivers will unharness their riding horses; Nos. 4, 5 and 6 unharness off lead, centre, and wheel, horses; each driver will then hold his pair of horses while Nos. 4, 5 and 6 bring up the sets of horses to the raft, handing them over to Nos. 2 and 3, and then returning to lead up the riding horses; 2 and 3 will place harness as shown on plate; Nos. 1, 2, 3 and 7 will then get on raft on near side.

V. Horses will have head collar and head ropes only.

VI. No. 4 will bring up the riding lead on the near side of raft, hand it to No. 3 and then get on off side of raft ready to take hand lead horse.

No. 5 will bring up the riding centre and hand it over to No. 2 and get on off side of raft ready to take hand centre horse.

No. 6 will bring up the riding wheel and hand it over to No. 7 and get on off side of raft.

Lead driver brings up the hand lead on off side of raft, and hands it over to No. 4.

Centre driver brings up hand centre on off side of raft, and hands it over to No. 5.

Wheel driver brings up hand wheel on off side of raft, and hands its over to No. 6.

VII. If found necessary, horses should be brought up to the raft with a twitch on, made by tying a knot in the loop of driver's whip. If deep, the man bringing up the horses will hand the head rope to No. 6 or 7; the men on the raft passing the horse up to his proper

place and keeping the head rope short and the horse close to the raft; this will prevent the horse turning round.

The head rope to be given a turn round the seat, but on no account to be tied.

As soon as the horses are in their places, Nos. 8 and 9, with the drivers, will push the raft off, whipping up the horses and jumping on behind, 8 and 9 will use oars as rudders; remembering that when they row, the nose of the boat will go in the direction they are facing.

VIII. As soon as the raft starts, the horses should be let out or pulled in so as to give them room.

IX. The horses should pull the raft over; oars in rear only being used for steering.

X. On arriving at the other side, the numbers holding the horses will lead them out and hand them over to the drivers, returning to take off the harness and assist in unloading the guns.

XI. Horses should be harnessed up at once by the drivers and 4, 5 and 6, while the gun is brought into action by 1, 2, 3, 7, 8 and 9 if necessary.

XII. If it is urgent to bring the guns into action at a short distance, the wheel horses must be harnessed up as quickly as possible and take the gun into action alone.

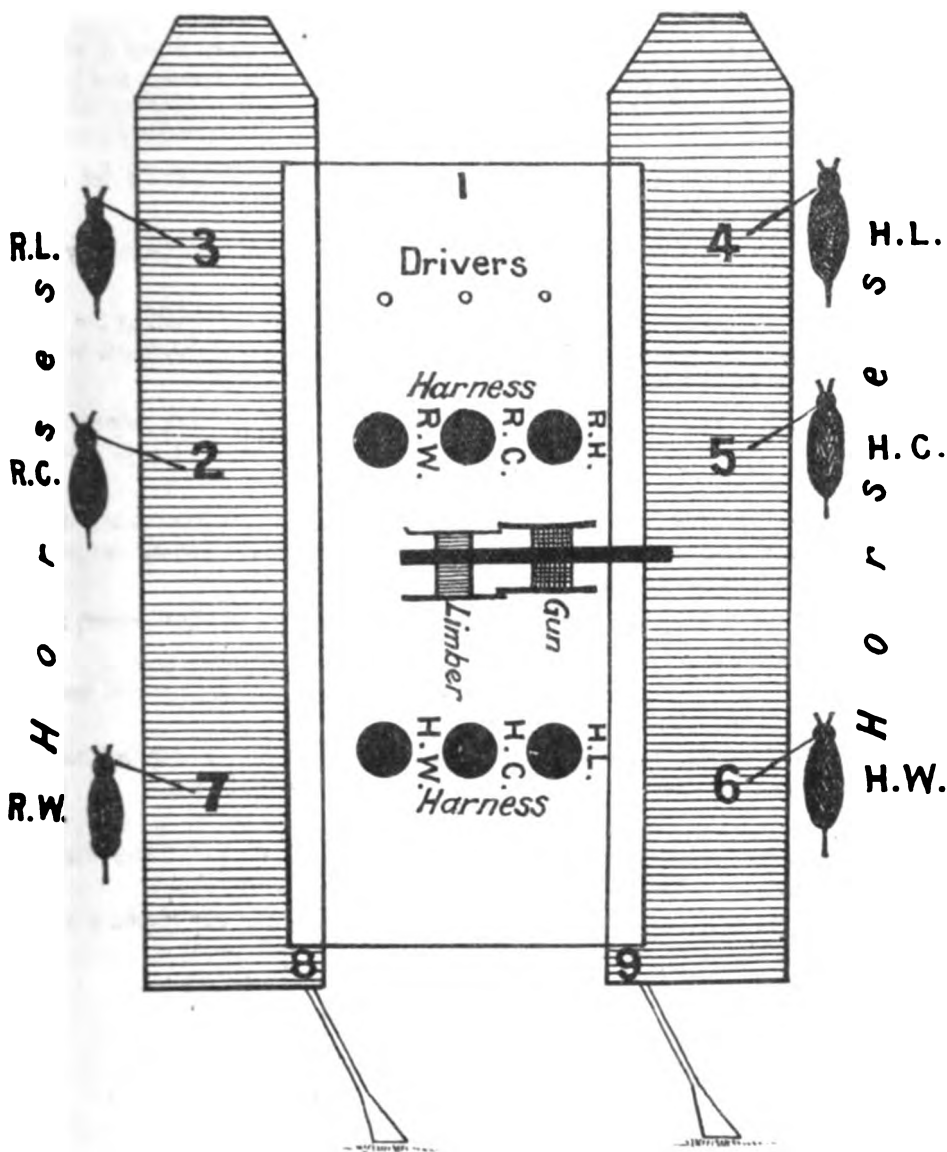
XIII. Starting and landing places should be shallow water, 2 to 3 feet deep.

If pontoons are not available, the system can, with slight modifications, be utilised for country boats or rafts.

The raft can, to a great extent, be guided by holding back the horses on one side or whipping up those on the other.

The main point to be remembered is to hold the horses short by the head until the raft or pontoon is started and the horses forced to swim.

In starting, it will be found easier to drive the horses into deep water than to push off the raft.



C. T. ROBINSON, Major,
A. A. G., Mhow District.

SPECIFICATION OF A FORM OF FIELD SERVICE TENT FOR USE OF LANCER REGIMENTS.

BY LIEUTENANT H. J. WALLIS, 1ST LANCERS, HYDERABAD CONTINGENT.

The Commandant of my Regiment, Lieutenant-Colonel E. F. H. McSwiney, D.S.O., having in view the re-equipment of the 1st Lancers, Hyderabad Contingent with some form of tentage that was most suitable and convenient for operations in the field, I have been attempting to devise some form or other of tent that would fulfil the conditions and necessities mostly arising on field service, such as:—

- (a) Adaptation to a minimum amount of transport.
- (b) Independent of the usual methods for erection such as poles, joints, etc.:—
- (c) The material composing which to be adaptable to other purposes should occasion arise.

The tent to be *imprimis*, constructed from two water-proof sheets of canvas or other Millerained material, the best form of which would be evident from future experiments, but a good stout canvas would I think be far the most suitable from qualities evident to all; of colour "babul"—this being considered by many to be excellent for use in India being very difficult of discernment from a distance by day and a bad reflector of the moon's beams.

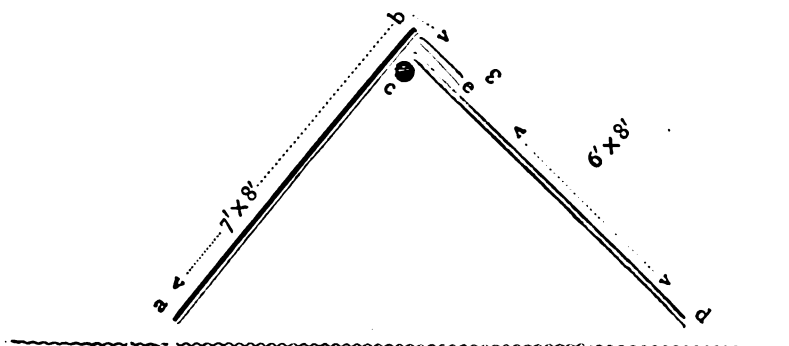
The tent is of the ordinary isosceles triangle section, and its two sides are formed by the canvas sheets aforesaid.

Dimensions of sheets forming one side 6' wide by 8' long, of the other 7' wide by 8' long, the extra foot of breadth in the latter case being necessary for the purpose of falling over the angle of intersection.

tion of the two sheets when the tent is raised so as to act as a watershed and prevent rain entering through the ridge.

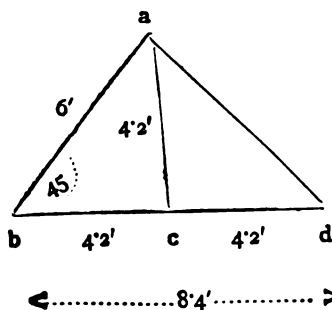
Fig 1.

Horizontal Section of Tent.



The internal dimensions of tent would I calculate give sleeping accommodation for three men thus—

Fig. 2.



$$\frac{a c}{a b} = \sin 45^{\circ} = \frac{1}{\sqrt{2}}$$

$$\therefore \frac{a c}{6} =$$

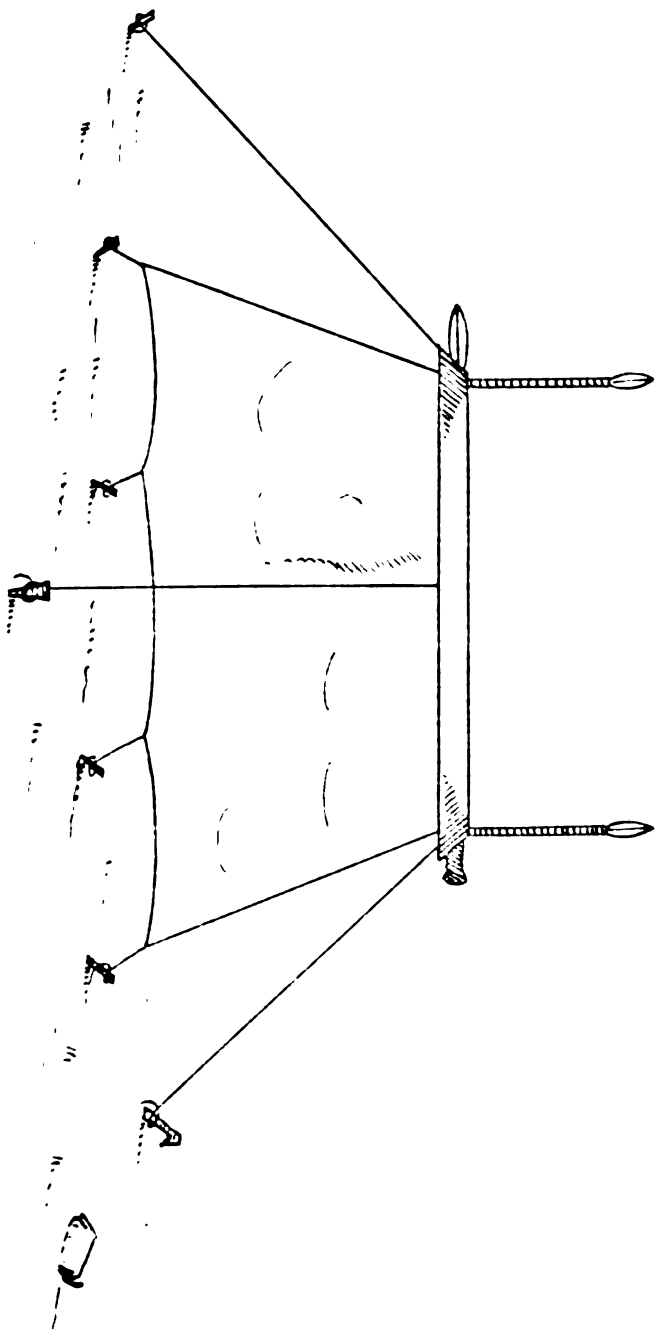
$$\sqrt{2 a c} = 6$$

$$\therefore \frac{a c}{b c} = \frac{6}{\sqrt{2}} = 4.2 \text{ feet}$$

or with a minimum of 4'2" height, a floor accommodation of 8 x 8.2 square feet, but of course these dimensions are subject to alterations as dictated by further experiment and experience.

Along the inside length of the sheet a b c (fig 1) at b, the angle of intersection, are seven loops of newar alternate with similar loops along the ridge line of the sheet c d. These being placed in position on the ground are then threaded together by a lance which forms the ridge pole of the tent, as at c fig 1.

In the larger sheet at either end, as at b in fig 1 a hole, well sewn and guarded with twine is made. They should be about the diameter of the lance heads used in the regiment. Through these, one at either end, two lances forming the tent poles will be passed and round the intersections of these with the ridge lance, guy ropes will be passed with one or two cross turns to prevent the ridge pole



(Sd). H. J. WALLIS, Lieut.,
1st Lancers H. C.

slipping down the upright lance shafts. The ends of the guy ropes are then fastened to pegs in the usual way.

I should advocate these guy ropes being strongly sewn on to the water-proof sheets so that they may always be there when required, and to further preclude the sheets slipping down the lance shafts which I don't at all think likely if secured as I have described by a couple of turns of the guy ropes—the following device might be utilized.

Besides the "grummet" hole through which the end lance shafts pass, a stout one-inch strap about 4" long is sewn for half its median

* Diameter equivalent to that of lance head. length, the buckle and plain end being free. A large iron D or ring* is secured at right angles on the sheet side of the free end of this strap—exactly like the lead ring on a dog-collar—and this strap being buckled round the end lance shafts, the ridge could be passed through the D thus rendering the downward movement of the sheets on the lance uprights, or of the lances on one another, a matter of impossibility.

The two sheets having been now threaded together and the uprights placed in position and secured the whole is raised and supported by the two end guy ropes (and also for strength by a middle guy rope on either side secured to *inside* of sheet and then passed through outwards) which are attached to blanket pegs, in the usual way.

The apertures of the tent can be provided for by furnishing the waterproof sheets with triangular curtains which may be of lighter Millerained material owing to their not being subject to the downward fall of rain; and for further comfort short four inch vallances might be with advantage sewn on to the lower edges of the sheets for the prevention of draughts, etc.

As I propose that half of the men of the regiment be given the larger and the remaining half the smaller
Proportion. sheet and since the dimensions given provide a tent capable of holding three men, the third man's tent would serve as a floor covering where necessary, protection of kit during rain or for rigging up "corrals" for horses as a defence against wind, etc., etc.

It may be urged that the utilization of the lances as part of the tent constitute a weakness and that the men would be—now that the sabre has been abolished—deprived of half their effective armament; but on an alarm being raised or from any sudden cause arising whereby the lance was imperatively required, I think that it can be seen from a glance at the rough model that by kicking away the butts of the two upright lances the whole structure collapses, the guy ropes are loosened, and the three lances can be withdrawn from their places all within 30 seconds. Three men could put up one tent in under five minutes; *i.e.*, independent of the time required for marking out site of the camp and unloading carts, a whole regiment could be housed in a similarly short space of time.

Taking the average weight of these sheets as a maximum of 6 pounds and the strength of a squadron as 120 lances, one cart of 800 pounds capacity could convey the entire tentage of a squadron or with a minimum load of 12 sheets 10 ponies or mules would be ample.

Miscellaneous.

I have had a tent made on this principle, but each sheet was 10' x 10' and 10' x 9' respectively, made of a double fold of heavy "dusuti." In spite of the weight the lance used as a ridge pole sagged to an inappreciable degree and was unaltered in shape on striking the tent. A stiff wind blowing at the time did not affect the stability of the tent in the slightest.

THE "BARTITSU" METHOD OF SELF-DEFENCE.

BY CAPTAIN F. C. LAING, 12TH BENGAL INFANTRY.

Although the art of self-defence alluded to here is without the use of any recognised military weapon, it may perhaps be of interest to readers of this Journal as showing what science and skill can do against merely brute force.

"Bartitsu" is a name already well known in England and India, and articles in various magazines have appeared from time to time giving some idea of what this system comprises.

Before proceeding I should like it to be understood that I do not put myself forward as an expert, but merely relate my experiences as a pupil of Mr. Barton-Wright during a three months' course of instruction at his school in Shaftesbury Avenue. While on furlough in 1901 I had various opportunities of seeing his instructors give exhibitions both in public and private, and as I was much interested by what I saw and by what I heard from friends who had already joined his school, I started the course which, I regret to say, I could not prolong, my leave being up.

Although the name "Bartitsu" is now so well known, it might be explained that it is simply part of Mr. Barton-Wright's name compounded with a Japanese word "jotitsu" meaning wrestling, and the art of "Bartitsu" implies self-defence by all the methods taught at the school; these include Japanese and catch-as-catch-can wrestling, walking-stick defence, boxing, etc. In this paper I propose to deal with merely one of the two methods I selected, *viz.*, walking-stick defence; it must be remembered that to master all the methods taught would take a long time, but with the two I attempted, I advisedly say attempted, one can at any rate learn enough to feel a certain amount of confidence in case of being attacked by evil-disposed persons, and it is to guard against such attacks that the "Bartitsu" method of self-defence has been evolved.

The professor of the walking-stick defence at the school is Mons. Pierre Vigny, a Swiss, who was formerly a *maitre d'armes* in the French Artillery: it is a system which he has invented entirely and it is meant essentially for use against an attack by foot-pads, brawlers, would-be assassins and any gentry of this description likely to be met with in a crowded city or on a lonely country road by day or night.

Mons. Vigny, I understand, not content with having invented his system, determined to test it practically, and for this purpose was in the habit of going into the purlieus and worst localities of Geneva and other large towns simply to court a row; the local roughs with praiseworthy

alacrity obliged him with as many free fights as he wanted, and although he naturally had to suffer some inconvenience occasionally by being half-murdered, he evidently gave more than he took and emerged triumphantly with a very skilful and very terrible art literally at his fingers ends.

The weapon is simply an ordinary walking-stick of medium weight and similar to those carried by most men in the town; it should, especially for practice, be straight and tough, and malacca canes are used at the school for instruction; the chief thing is for the stick to be without a crook or handle and capable of warding off a fairly hard blow.

One great advantage of the walking-stick method is that its use need not be confined to the young and agile man but can be learnt by anybody, and even a lady with a sunshade can, if properly taught, give any ordinary rough who attacks her a sufficiently unpleasant time to enable her to beat a successful retreat as long as she keeps her wits.

I have not space in this article to explain the whole system, nor had I time to learn the whole of it myself, but I trust the reader will be able to follow the main points and, if possible, I should like to encourage him to go to Mr. Barton-Wright's school at the first opportunity; for anybody in town for a few months in the year let me recommend the forms of interesting and exciting sport already alluded to, wrestling, walking-stick, etc.: to most of us in this land of the stony-broke, polo at Hurlingham and hunting in the shires are unattainable luxuries, but an hour of "Bartitsu" three or four times a week will keep one not only fit, but will gradually turn the pupil into a fairly dangerous person for any one to tackle.

Mr. Barton-Wright himself has been taken on by every sort of adversary, professional and amateur, both in play and in earnest, and so far I have never known him to come out of the fray without having got the better of his opponents; while being hard, agile and determined he is in no sense a "strong man" of the Sandow type; his success is due to knowledge, science, and readiness of resource in every emergency when bodily risk is run in an encounter with any and every sort of human adversary.

At this point I think it may be necessary to explain one or two details about which I am frequently asked when mentioning walking-stick defence: one usual question is, what difference is there between it and ordinary single-stick? Every difference: the guards are different; but its chief difference and also advantage lies in the fact that it is ambi-dexterous, the left hand being employed in the same way as the right and alternately as required, and further the butt or short end of the stick is used for close fighting; it must be remembered that although throughout the whole of "Bartitsu" it is possible to practice without injuring one another, the final object of the system is directed towards rendering your assailant not only powerless, but, if necessary, of so severely injuring him that he is at your mercy.

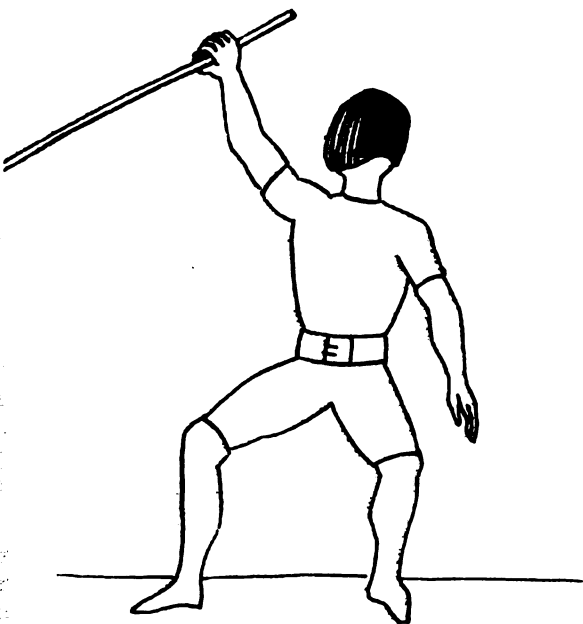


Fig. I. On Guard.

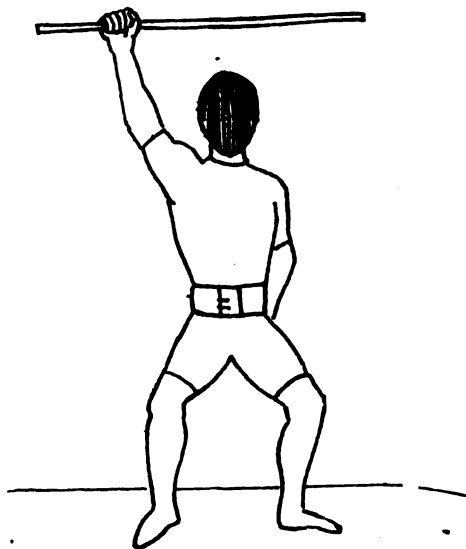


Fig. II. Head Guard.

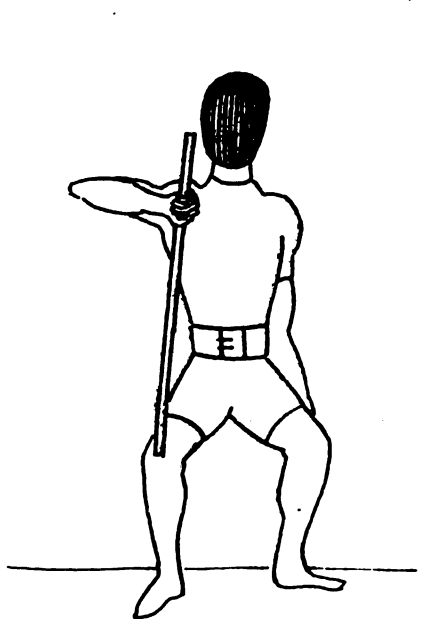


Fig. III. Flank Guard.

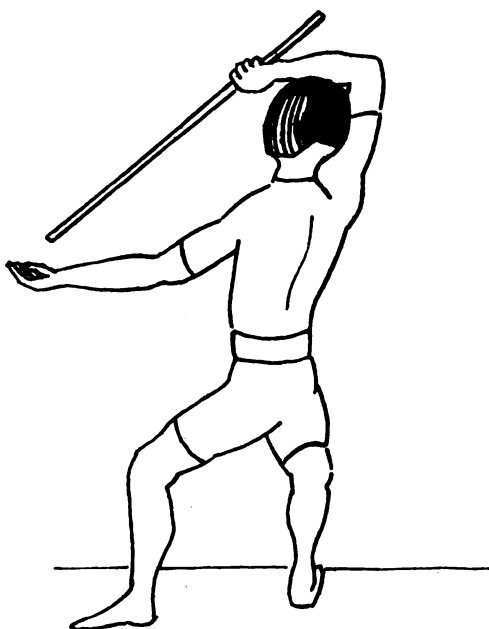


Fig. IV. Rear Guard.

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It is of course not necessary to resort to extremes unless one's life is in jeopardy, but I wish to show that "Bartitsu," while affording agreeable and interesting exercise, is also a serious art like swordsmanship and that its ultimate aim is to render its exponents practically invulnerable against attack. The longer a person practices the system, the more proficient he becomes, but I believe I am correct in saying that neither Mr. Wright, Mons. Vigny, nor his Japanese wrestlers have ever been defeated.

I now propose to show, as accurately as I can, how the walking-stick is used. The figures, although very roughly drawn, give fairly correctly the positions of the body, stick and hand and with the accompanying explanations will help the reader, I trust, to understand the chief features of the system.

First, as regards clothes: all that is required is a suit of flannels and a pair of shoes without heels; the masks should be of cane similar to the pattern used for single stick and well padded over the cheek. Gloves are not generally used to guard the hands as there is no need for them when a man is fairly proficient.

It is taken for granted that the reader is familiar with the ordinary attitudes adopted in fencing; that is, as regards position of the legs at "the engage" and when lungeing.

FIRST POSITION.

"On guard."—Assume the position of the fencing engage but with the right hand raised slightly above the head, arm nearly straight, keeping the stick nearly horizontal point to the front, left arm hanging down behind and kept well out of the way. Fig. I.

Note.—After making hits, guards and points always return to this position as soon as possible, and remember that all the positions described apply equally to the left hand as well as the right.

GUARDS.

Head.—Keeping the arm nearly straight hold the stick *horizontally* a few inches above the head, hand slightly forward, and well away to right to avoid being hit on the knuckles. Fig. II.

Face.—Drop point of stick over to the left hand and elbow nearly level, stick perpendicular and three or four inches away from the left cheek.

Face sideways.—Without changing position of the body, move stick across to the right, so that it falls perpendicularly down close to right cheek, elbow well up.

Body.—Drop right hand and move stick across front of body keeping elbow level with the shoulder: let the stick fall perpendicularly close to left side.

Flank.—Move the hand across so as to let the stick similarly guard the right side; keep elbow, hand and shoulder level as possible. Fig. III.

Leg.—The leg is guarded simply by moving it back about 12 inches behind the left, retiring a pace, or bringing left foot back to right, both legs straight.

Rear guard.—Stand equally balanced on both feet, left foot about 18 inches in front of right, toes pointing to the front, right foot pointing to the right, holding the stick as before described, raise the right arm over the head so as to keep it a few inches above the forehead, point of the stick inclining forwards and downwards, left arm stretched out in front, back of the hand to the left, fingers extended. Fig. IV.

HITS.

1. When making a hit at an opponent's head, always keep the fingers *uppermost*, back of the hand underneath.

2. Care must be taken in making all hits, *never* to check the blow, but carry it through, *i.e.*, disengage continually and then return immediately to the "on guard;" if the blow is checked, you cannot be in time either to guard yourself or to make a riposte.

3. The hit is made by a sort of circular sweep of the arm, fingers uppermost, and for loose play and practice the blows dealt should be extremely light; this is done by loosening the fingers slightly. Fig V shows hit on head and the guard by distance.

Head.—From "on guard" hit opponent's head, follow through and return to "on guard."

Face.—Keeping stick horizontal hit left side of opponent's head, either head, cheek or neck.

Face sideways.—Same as above but hit right side.

Body.—Hit opponent's body on right side.

Flank.—Hit opponent's body on left side.

Leg.—Hit *inside* of opponent's leg; the most useful places are just above the ankle, inside of the knee and shin.

POINTS.

1. Points are made as in sword play, also by throwing the stick forward with the right hand and allowing it to run through the other, as the stick strikes the opponent both hands will be grasping the stick; knuckles of left hand uppermost. Fig. VI.

2. Points are made with the butt end of the stick at any part of the body, the most favourable places being at the throat and ribs. Fig. VII.

3. For obvious reasons pointing is not resorted to in loose play as it is too dangerous, but it can be practised when learning.

COMBINED PRACTICES.

I will now give a few of the simpler combined practice from these a general idea will be gained as to how the stick is used.

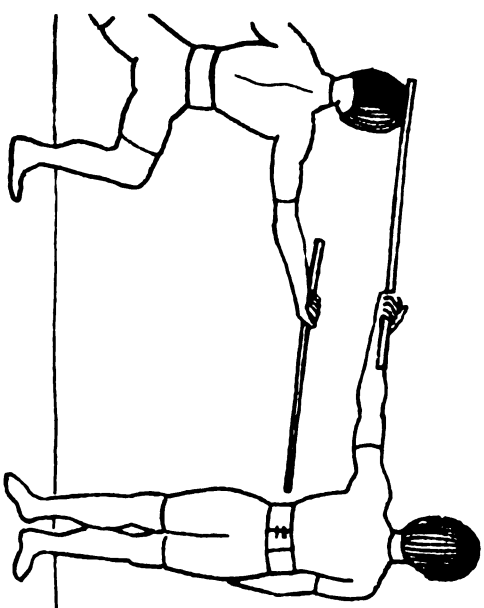


Fig. V. Hit, and Guard by distance.

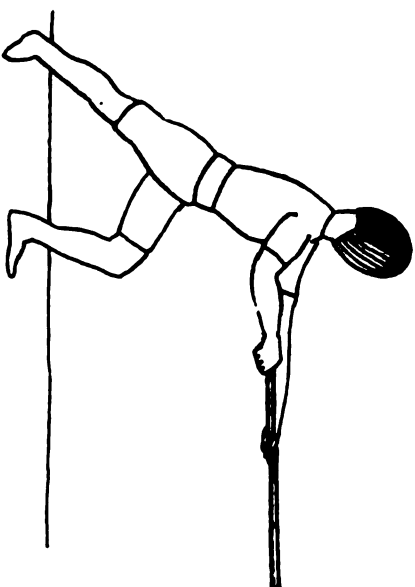


Fig. VI. Point. Stick running through Left hand.

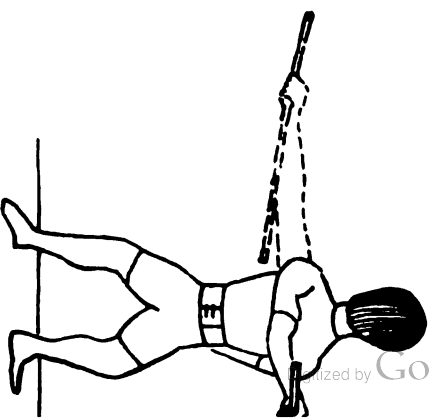


Fig. VII. Point with Butt.

1ST PRACTICE.

1. "On guard." Hit head, guard head, riposte head.
2. "On guard." Hit face, guard face, riposte head.
3. "On guard." Hit face (sideways), guard face, riposte head, and so through all the hits as described already.

2ND PRACTICE.

Same as above but lunge for first hit, recover for the guard and lunge for the riposte.

3RD PRACTICE.

From "*rear guard*."—Guard face sideways, then head as already described, retire one pace, right foot leading, draw left foot back to right, making a half-left turn of the body, riposte on opponent's head and return to "*rear guard*."

4TH PRACTICE (CHANGING HANDS).

To "*rear guard*."—With a circular motion of right arm from front to rear hit upwards, point of stick just clearing the ground so as to hit opponent's ankle; as the stick rises to level of shoulder change it into left hand at the place where it was held in the right hand; hit opponent's face, then point at his body and return to "*on guard*," changing stick back to right hand.

There are numerous others, which space prevents me from entering into here, and I will close this paper by giving one or two examples of how an adversary should be met and disposed of.

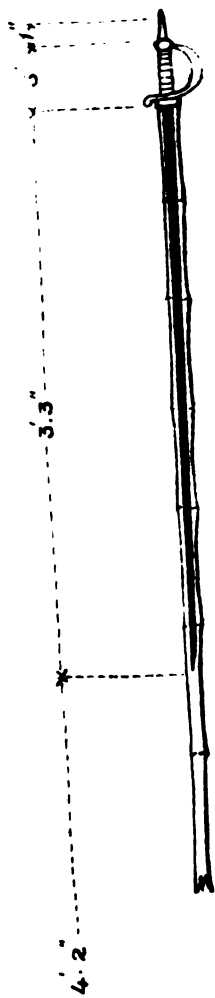
First.—We will suppose you are attacked by a man also with a stick in his hand: in nine cases out of ten a man who doesn't know "*Bartitsu*" will rush with stick uplifted to hit you over the head. Assume "*first position*," guard head, then, before he has time to recover himself, hit him rapidly on both sides of his face, disengaging between each blow as explained, the rapidity of these blows will generally be sufficient to disconcert him; the moment you see this; dash in and hit him in the throat with the butt end of your stick, jump back at once and as you jump hit him again over the head.

Second.—A man without a stick rushes at you with his fist, he will probably strike out at your face or body with his left hand; if so, take up the "*rear guard*" position and as he strikes guard with left arm, seize his left wrist, and hit his left elbow with your stick, advance right leg and point with butt end of your stick at his throat, then follow this up by thrusting your stick between his legs and so levering him over.

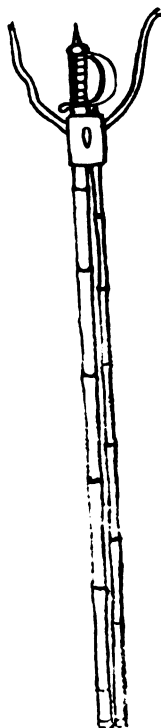
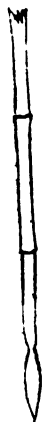
Many more examples could be given, but they are better shown practically; always remember, however, in dealing with an antagonist, never await an onslaught if you can help it; go straight for him;

always keep moving, and as opportunity occurs let him have it on any part of the body he leaves unguarded ; the fact of changing the stick from one hand to the other is often more disconcerting than by hitting a man on vulnerable parts like the shin and ankle, you can generally get him at a disadvantage ; never let your stick rest but always disengage to be ready for a guard or riposte.

If I have been fortunate enough to interest the readers of this Journal in one of the many forms of "Bartitsu," I shall hope to describe later in another article a further series of "walking-stick defence" tactics, combined with some of the most useful and punishing falls and grips used in Japanese wrestling, and in closing let me again urge every one to go through a course of instruction at the first opportunity. "Bartitsu" can never be learnt theoretically and my chief desire in sketching the rough outline above is to induce readers of all ages to take up and learn it for themselves.



4' 2"



LANCE FOLDED FOR CARRYING

THE SWORD-LANCE : A SUGGESTION.

BY CAPTAIN F. C. LAING, 12TH BENGAL INFANTRY.

In the October number of this Journal, "Tulwar" briefly discussed the question of the most suitable hand-to-hand weapons for use in the Native Cavalry. May I venture to offer a suggestion which might possibly, when perfected, produce a weapon combining the advantages of both lance and sword, making the former a sort of elongated sheath for the latter.

The accompanying rough hand sketch may assist the reader to follow my idea more clearly.

The lance I propose is made, as at present, of bamboo, carrying the usual steel head ; at the butt end it is hollowed so as to form a scabbard for a straight sword, the handle of the sword forming the lance-butt, the button being made long enough to fit into the stirrup when the lance is being carried.

The sword blade, about 3 ft. 3 in. long, is prevented from falling out by means of a steel spring similar to that of the sword bayonet.

In order to decrease the weight the lance head and sword guard might be made lighter ; in any case the weight would probably not exceed that of the lance now in use by more than a few ounces.

The advantages claimed for this form of weapon are :—

1. One combined weapon instead of two.
2. Decrease of weight on the horse.
3. Each man carries a weapon which he can use in the manner most suitable to the requirements of the moment.
4. The construction in no way affects the strength or utility of either weapon.
5. Convenience of carrying.

In conclusion I should add, that if the jointed lance is adopted, it would be most suitable to the combined sword-lance as it can be carried as shown in the sketch.

The disadvantage of the weapon may consist in the sword being straight and not curved ; there are adherents of both forms and some may consider a straight thrusting sword more serviceable than the curved.

SOME ACCOUNT OF THE MOPLAHS AND COORGs.

BY MAJOR R. G. BURTON.

I. MOPLAHS.

The Moplahs, properly Mapilla or mother's sons, are supposed to be descended from the off spring of Arab traders and women of the country on the Malabar coast, their origin dating back to the eighth century A. D. They have, however, become so intermixed with local races both by marriage and by the acquisition of proselytes to their faith that the race as it now exists has probably little of the original Arab strain remaining.

They are a fine-looking, sturdy, and industrious race, inhabiting the Malabar coast from Cannanore to Chaughat, and extending into the interior to the mountainous country known as the Western Ghauts. On the coast they are generally traders; in the interior they are mainly engaged in agricultural pursuits.

By religion they are Sunni Muhammadans, and they observe very strictly the forms of their faith, particularly as regards abstention from spirituous liquors, although they appear to be generally somewhat ignorant of the ethical tenets of their religion; but they regard their priests with great reverence.

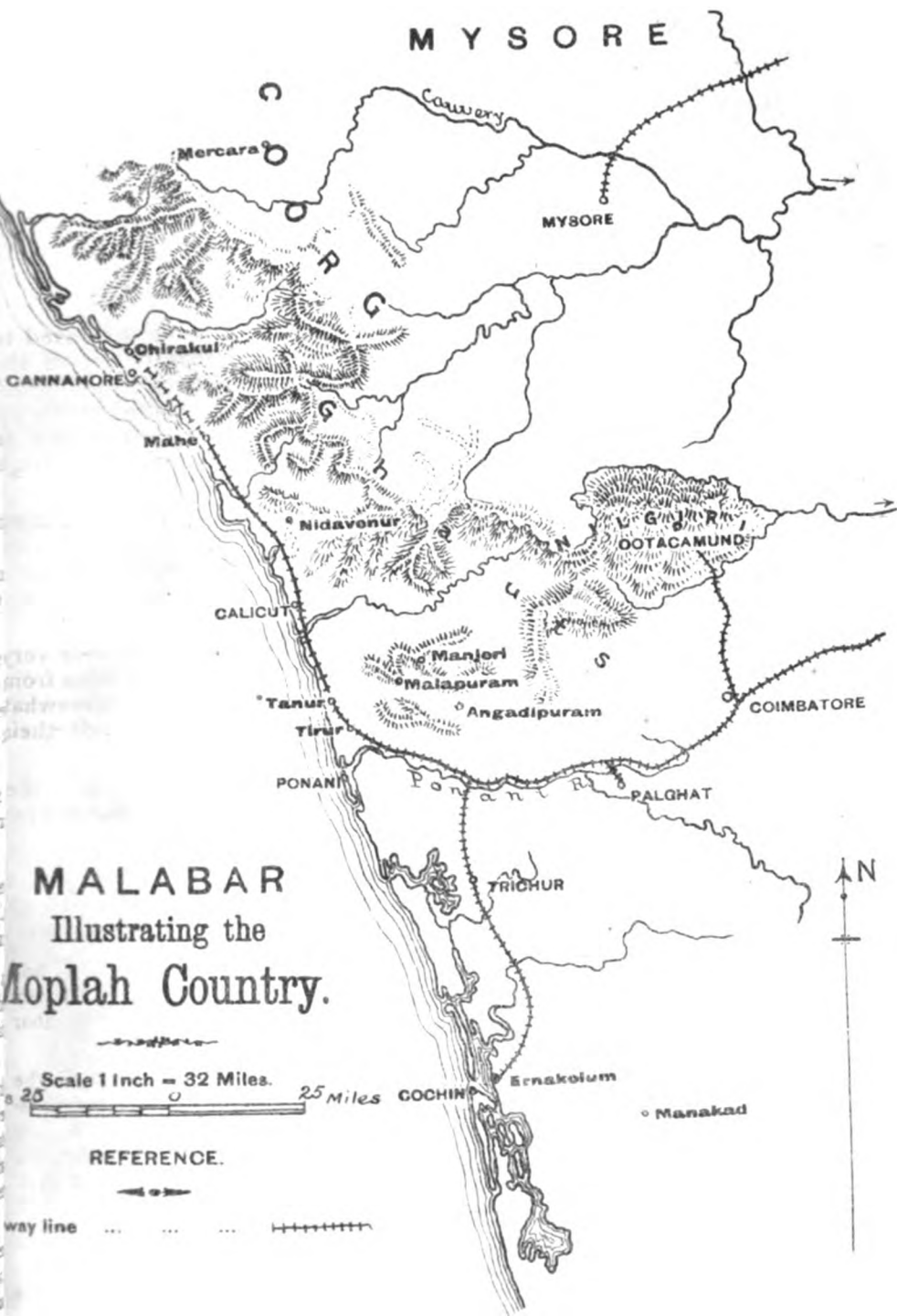
Their language is Malayalam, and is generally written in the Arabic character in North Malabar, and in the ancient Tamil character in the southern portions of that district.

We first hear of them in modern times in the year 1792, when a Joint Commission from Bengal and Bombay was appointed by Lord Cornwallis to enquire into the condition of the Province of Malabar.

The Moplahs appear to have given some trouble to Hyder Ali and his son and successor Tipu Sultan, who were glad to conciliate them by certain concessions, whilst the latter was obliged to visit Malabar to restore order in that country.

There has always been trouble between the Moplahs and the Hindus, partly religious but partly also due to the attempted suppression of the former by the Nairs. Thus, in 1791, we find that the Rajahs of the Zamorin family made an unprovoked attack upon the Moplahs, but were ignominiously defeated at Kandoti, and deprived of their fire-arms.

At the end of the eighteenth century they appear to have been divided roughly into two classes, the peaceable traders of the coast, and the "jungle-moplahs," inhabiting the wild and mountainous



tracts of the Western Ghauts, forming numerous bands of professional robbers, and addicted to kidnapping the male and female children of the Nairs, whom they sold to the Commanders or Supercargoes of European vessels for exportation, especially to the French at Mahé, the Dutch at Cochin, and in a lesser degree to vessels visiting the English port of Tellicherry.

One of the members of the Commission above referred to, Major Dow, made several tours among the Moplahs, and found them generally tractable and reasonable. He was so impressed with their military qualities, that he recommended the formation of a Moplah militia, which recommendation was embodied in the report of the Commission in the following terms, recommending to Government a means of securing permanent quiet to the most turbulent and wildest part of the province, by "attempting gradually to raise, embody, and inure to discipline and attachment to the Honourable Company's service at least one Battalion of Mopillas in the southern, and one of Nays in the northern districts, an undertaking which, however difficult it might appear, and would no doubt in some degree prove, in the outset, must, we conceive, be very capable of being got over, as well as attended with similar advantages towards the reconciling of these people to the British Government, and effectually establishing its authority, as has been so happily experienced in the establishment of the corps of Hill Rangers from amongst a still wilder and less civilized people in Bhaugulpoor."

This recommendation was not, unhappily, carried into effect. Had it been acted upon, much trouble and bloodshed might have been saved, and the nucleus of an efficient martial force might long since have been established in Southern India.

As it is, we have only undertaken the enlistment of Moplahs in two regiments of Madras Infantry during the past four years.

Although the Moplahs have always borne a character for turbulence, it was not until 1841 that the fanatical outbreaks commenced, which were repeated at intervals until recent years. The origin of these outbreaks is generally ascribed to the establishing of a fanatical sect under the influence of one Tirurangadi Tungal, an Arab fanatic, who died at Tirurangadi in 1844, and was succeeded as High Priest by his son, who was induced to leave India in 1852, and was prohibited from returning. It would appear, however, that the actual cause of the outbreaks is to be found in agrarian grievances, fanaticism being the method of the actual ebullition.

The disturbance usually commenced with the murder of a Hindu from personal motives by one or more Moplahs; the band, frequently augmented by other fanatics, would then take up a position in a defensible house or mosque, and there fight to the death, exhibiting almost incredible fury and courage. The action of the fanatics bears a great resemblance to that of the Ghazis of the North-West Frontier. It is preceded by abstention from business and preparation for death by prayer, the fanatic's hope being to murder an infidel before being

himself destroyed. The outrages are committed in broad daylight with no attempt at concealment.

In 1841 a characteristic outbreak took place, which may be described in detail as being typical of these occurrences. On November 13th of that year eight Moplahs attacked and killed a peon, took post in a mosque, set the police at defiance for three days, and were joined by three more fanatics on the 17th. The cause assigned for the murder of the peon was that he had dragged one of the Moplahs out of a mosque and tied him up, but it was said that his destruction had already been resolved upon because he had opposed the raising of a mud wall round a small mosque built in a garden acquired from his predecessor twenty-two years before. A party of 40 sepoy of the 9th Native Infantry arrived on the scene on the 18th under Lieutenant Shakespear, accompanied by the District Magistrate, Mr. Platel. The officer's report says :—" Mr. Platel made strenuous efforts to induce a party of peons to advance ; I found it was necessary to advance with them ; as we approached, the peons fired a few shots and drew off to the left, and when we arrived within 100 yards of it, five of the Moplahs rushed forward with big knives and shields to defend themselves ; two diverged to the left, who were instantly shot by the peons, and three made off to the right towards some paddy-fields, where they were assailed by a file or two of my men, and a few villagers and peons likewise joined them. A struggle took place between a sepoy and one of the Mapillas ; an *adhi kari* came and cut him down ; a second was attacked by a sepoy who threw him down, and while securing him was shot by one or two peons ; a third having severely wounded a villager was also killed. Immediately after the rush of the first men, six more came running headlong down the eminence, similarly armed, and from the desperation of their manner the sepoys and peons opened fire upon them and they fell."

These affairs did not, however, always terminate so happily. In October 1843 seven Moplah fanatics charged a detachment of some sixty men of the 5th Madras Infantry under Captain Leader, put them to flight, and killed a subadar and three sepoys, the British officer, 5 sepoys and seven peons being wounded in the encounter. The fanatics were killed by the taluk peons and villagers. Again in December of the same year a party of 10 Moplahs charged in the open two companies of sepoys sent against them, and were all shot. In 1849 a detachment of the 43rd Madras Infantry refused to advance against a party of 32 fanatics, and their officer, Ensign Wyse, was killed.

A detachment of the 94th Foot, about 120 strong, was then sent for from Cannanore to deal with the Moplahs, now 64 in number. The encounter took place at the forty first milestone from Calicut on the Great Western Road, on open ground. On receiving intelligence that the insurgents were advancing to the attack, Major Dennis drew his men up "in column of sections, right in front, so as to occupy the whole breadth of the road, when the enemy came on with the most desperate courage, throwing themselves on our bayonets ; after firing off their match-locks, they took to their war knives, swords,

and spears, and when struck down to the ground, renewed the fight even on their knees by hurling their weapons at the faces of our men, and which continued until, literally, they were cut to pieces; others, planted on the trees, kept up a most destructive fire with their matchlocks loaded with iron slugs. This attack was made by the enemy in three divisions, about 300 yards apart, the second led on in person by Attan Gurikkal (Coyah or priest), who fought with most desperate courage; but I am happy to say that through the steadiness, correct and low firing of the men, our loss has not been so considerable as might have been expected from the desperate onset of these mad fanatics; and in the space of half an hour the enemy was completely annihilated, leaving 64 dead, their bodies lying close to each other, exhibiting most dreadful wounds, some having received four or five musket balls, besides bayonet stabs, before these fanatics could be stayed carrying on their determined work of destruction in our ranks." (Major Dennis' report.) Two of the 94th were killed, and five wounded.

In his report, the District Magistrate said--

"The power of their fanaticism was astounding. One of the men had had his thigh broken in the engagement in which Lieutenant Wyse was killed. He had remained in all the agony attendant on an unhealed and unattended wound of this nature for seven days; he had been further tortured by being carried in a rough litter from the Manjeri to the Angadipuram pagoda. Yet there he was at the time of the fight, hopping on his sound leg to the encounter, and only anxious to get a fair blow at the infidels before he died."

In the succeeding years up to 1885 other encounters took place, European troops being generally employed in the suppression of the fanatics. In 1884 a desperate resistance was made by a party of Moplahs who had taken up a position in a temple. Detachments of the Oxford Light Infantry and the Royal Fusiliers were despatched against them, and they were destroyed, but not until dynamite had been used to blow in the walls of the mosque, which had been most skilfully prepared for defence.

In 1885 a general disarmament of the people took place, and since then, with increased prosperity and careful administration, these outbreaks have subsided.

In 1900 the enlistment of Moplahs was commenced in the 25th Madras Infantry, and that regiment and the 17th Madras Infantry are now being gradually reconstituted as the 1st and 2nd Moplah Rifles. The men, when treated with discrimination, are found most amenable to discipline and are well behaved. Their soldierly qualities are evident from their history, and their physique leaves nothing to be desired. As these people number a total of over 200,000 males, they should be able to supply us with a number of battalions of efficient soldiers, and no doubt when the time comes, they will prove their efficiency and value on the field of battle.

II.—COORGS.

When, in 1875, a proposal was made by Sir Richard Meade to enlist Coorgs in the Hyderabad Contingent, it was decided that the measure was not feasible. Owing partly to circumstances connected with the physical character of their country, and partly from religious superstitions and practices which bind them to their mountains and forests, the Coorgs have always been distinguished by an invincible repugnance to emigrate or to accept employment beyond the limits of their fatherland.

This repugnance to leave their country was considered at the time to have grown out of habits of isolation. Some leading Coorgs, who were addressed on the subject, expressed themselves in the following terms:—"Being called upon to express an opinion on the subject of the employment of Coorgs in the military service, we think that there would be no difficulty in recruiting amongst our countrymen; but we would respectfully ask whether it is advisable to moot the subject of foreign service at so early a stage of a scheme which is likely to be met with some opposition on the part of old women and others, who will, there is no doubt, picture to themselves endless bloodshed, etc, and dissuade the young men from entering the service as soldiers. We would therefore suggest that the question of foreign service should not be raised just now, that the work of recruiting should be entrusted in the hands of men who take an interest in the organization of the regiment, and that it should be generally understood that the corps is being raised for local service.

We feel certain that time and discipline will remove any existing obstacles, and the Coorgs will not shrink from the duty of a soldier either in their own or a foreign country."

The proposal was, therefore, dropped for the time being, but recently it has been decided to convert the 11th Madras Infantry into a regiment of Coorgs, which is now being raised at Mercara. There can be no doubt that, owing to their clannishness and aversion to serve with other races, it is a mistake to enlist Coorgs into other regiments already formed. They should form, from the commencement, a regiment of their own, and that regiment should at first be localised for the reason above stated. The same difficulty was met with in the case of the Moplahs, and their enlistment *into* Madras regiments has consequently been attended with considerable difficulty, which is gradually disappearing as the Madrassi element is being eliminated, and the regiments are becoming entirely Moplah.

Moreover, the Moplahs were originally almost equally averse to leaving their country, but their prejudices in this respect have now been overcome, and we may hope for similar results with the Coorgs in course of time, when a complete battalion has been raised and disciplined, and has become accustomed to military service.

The small province of Coorg lies upon the borders of Mysore and Malabar, being shut off from the latter by the great mountain buttress of the Western Ghats. It is a land of forests and mountains, amidst which the Cauvery River takes its rise. The inhabitants are mainly employed in agricultural pursuits, and are also addicted to the chase of the wild animals which abound in their country. The headmen reside on their own land, each having his homestead surrounded by the dwellings of his kinsmen. By religion they are Lingayats, detesting alike Mussulmans and Brahmins. The people generally worship the jungle deities, to whom their forests are dedicated. They are of fine physique, and probably of Aryan origin, being greatly superior to the Dravidian races by which they are surrounded.

Until the seventeenth century the Coorg rajas appear to have retained their independence, but they then subjected themselves to a devotee who declared himself ruler, and to whom they agreed to pay a quarter of their rentals.

In 1770, Hyder Ali of Mysore advanced into Coorg with a large force, and occupied Mercara, the capital, where he erected a fort. It is said that he offered a reward of five rupees for the head of every Coorg brought to him, and that 700 heads were presented to him in consequence. In 1774, driven by the exactions of Hyder's Brahmin officials, the Coorgs rose, destroyed all the revenue establishments, and invested Mercara. Hyder moved the whole of his infantry in several columns so as to penetrate at once every part of the country, and thus quickly suppressed the rebellion. Every man suspected of being above the class of an ordinary soldier was hanged, and "for the purpose of overawing the natives a series of block-houses was erected, pervading every part of the country, and connected with each other, and with the nearest posts in Mysore." (Wilks's History of Mysore.)

The measures taken by Hyder Ali failed to reduce the country entirely, and his possession of it did not extend beyond the ground actually occupied by his military posts. His successor, Tipu Sultan, in 1784, entered Coorg with his whole army, and the inhabitants yielded to necessity and apparent quiet was restored. The Sultan harangued them in the following terms, in which he deprecated their moral shortcomings:—

"If six brothers dwell together in one house, and the elder brother marries, his wife becomes equally the wife of the other five, and the intercourse, so far from being disgraceful, is familiarly considered as a national rite; not a man in the country knows his father, and the ascendancy of women, and bastardy of children, is your common attribute; from the period of my father's conquest of the country, you have rebelled seven times, and caused the death of thousands of our troops; I forgive you once more, but if rebellion be ever repeated, I have made a vow to God to honour every man of the country with Islam; I will make them aliens to their home, and establish them in a distant land, and thus at once extinguish rebellion, and plurality of husbands, and initiate them in the more honourable practices of Islam."

Leaving Coorg under a Military Governor, Tipu returned to his capital, but next year a fresh outbreak demanded his attention. The Governor excited the indignation of the Coorgs by carrying off one of their women, whereupon they rose *en masse*, and the Sultan's deputy soon found his possessions limited to the walls of Mercara.

Among Tipu's officers was one who had made himself acquainted with European tactics, and had produced a treatise on savage or jungle warfare. This officer was sent to suppress the rebellion, but the historian Wilks relates, "the military flame did not seem to blaze with much lustre in the breast of the man of letters; no progress was made; he wrote to the Sultan that nothing but his own presence with the main army would terminate the war, and Tipu answered with the bitter taunt of wondering why he could not execute his own theory."

In fact, we have here a historical example of the failure of the military theorist. We have also had an instance of the use of the blockhouse system so far back as 1774. There is nothing new under the sun, and we shall now see the successful employment of "drives" in guerilla warfare.

In October, Tipu entered Coorg with two columns, burned and destroyed the patches of open country, and compelled the inhabitants to take refuge in the woods, where they, as usual, refrained from any decisive operations. He then established strong detachments on the frontier in every direction, and closed in his troops concentrically, beating up the woods as though driving for game. In this manner the mass of the population, amounting to 70,000, was captured and herded off to Seringapatam, where they were made Mussalmans in accordance with the Sultan's orders to his officers:—"You are to make a general attack on the Coorgs, and, having put to the sword or made prisoners the whole of them, both the slain and the prisoners, with the women and children, are to be made Musalmans."

The Raja of Coorg, Vira Raj, then a youth of fifteen, had been captured by Hyder, and imprisoned at Periapatam on the eastern frontier of the forests of Coorg, whence he escaped in 1788. From the walls of his prison he had seen his compatriots driven like herds of cattle to the shambles, and he was eager to avenge the wrongs suffered by his country.

He found the province depopulated, and the few remaining Coorgs living, hunted from place to place, like wild beasts in the woods. Placing himself at the head of the survivors, he commenced a system of partisan warfare which was remarkably successful in its results. The Muhammadans were gradually expelled, and the country reoccupied by Coorgs, whilst cattle, implements of husbandry, and seed corn were taken during raids into Mysore territory, and by the end of 1788 the Raja found himself at the head of four thousand faithful warriors. A detachment of the enemy, on its way to Malabar, was defeated with a loss of 1,200 men, and in 1789 all the Sultan's posts, with the exception of Mercara, were captured. Vira Raj now entered into a compact with the English, by which a combined invasion of Mysore was to take place from the Coorg direction as well as from

the north. He carried out his obligations most faithfully, and, as Wilks tells us, "in direct opposition to ordinary practice, in the country and class of civilization to which he belonged, every promise of this singular man was most sacredly performed, and generally overstepped. To an application for aid in gun bullocks, he correctly replied that those of Coorg were as unfit for military purposes as the cattle of Malabar; but he immediately made a most hazardous irruption into Mysore, in which he carried off and sent to the English an acceptable supply of the best quality from the Sultan's stock, and repeated the enterprise on every favourable opportunity. In provisions, intelligence, and aid of every kind, he anticipated the wishes of his friends, and rivetted their imagination by his frank and romantic gallantry."

This narrative throws an interesting light on the character of the Coorgs as exemplified in their Raja, who was, moreover, singularly magnanimous. In 1791, he had closely invested Mercara, when a convoy sent by Tipu to its relief was also surrounded by him. But, finding that the commander of the convoy was one who had rendered him a service when he was in captivity, he released him and his detachment, allowing them to deliver the convoy and return to Seringapatam.

In 1792, the Coorgs joined General Abercromby's force in the advance on Seringapatam, and, although undisciplined, they made a gallant array in their blue surtouts and red sashes, with their long carbines and the national broad-bladed wood-knife, called Kadkatti, which they wore on the back.

At the subsequent treaty concluded between Lord Cornwallis and Tipu Sultan, Coorg was ceded to the British.

In 1799, when the war broke out which ended in the Sultan's downfall, the Coorg Raja was present with General Stuart when the latter defeated Tipu at Sideshwar, and he rendered the British force every assistance in his power.

In 1834, the conduct of the Coorg Raja who had succeeded Vira Raj necessitated the interference of the British Government. A force consisting of the 55th Foot and 31st Madras Infantry invaded the country in two columns, and met with such opposition that one column was for a time unable to advance. In the assault on a stockade several British officers were killed, and the 55th in addition suffered a loss of 31 killed and 68 wounded out of 250 engaged.

Eventually the Coorgs were reduced to submission, the Raja was deported to Benares, and the country was annexed.

This ends the active history of Coorg. Under British protection the prosperity of the country revived, and the people have ever been faithful to the British Government; so much so, that they have been exempted from the provisions of the Disarmament Act. With such a history, with a fine physique and a generous nature, and all the advantages conferred by the character of their country and their pursuits, there is every hope that the enlistment of Coorgs in our army will meet with ultimate success, and result in the addition to its ranks of a body of efficient, warlike, and faithful soldiers.

THE OFFICER IN INDIA AND THE VERNACULAR LANGUAGES.

BY CAPTAIN H. H. NORMAN, NORTHAMPTONSHIRE REGIMENT.

Amended orders, which have recently been promulgated, on the conduct and scope of the examinations by the Higher and Lower standard in Urdu, also a reduction of the percentage required to qualify, tend to shew that these tests have not hitherto been quite satisfactory, and consequently have called for as much of necessary revision as will enable them to fulfil their object, which is to ensure in successful candidates a good working knowledge of the language.

I propose in this paper to review in detail the system upon which these examinations are conducted, and to offer a few practical suggestions. It will be for others to judge whether my proposals can be dignified with the name of improvements. I shall confine myself mainly to the Higher Standard Examination in Urdu, because to have satisfied the Board of Examiners in that ordeal is one of the necessary qualifications for retention in the Indian Staff Corps; and without passing it no officer of the British Service is qualified for staff employ in India. Its importance therefore is paramount.

To plunge then at once *in medias res*, the first item is "A passage from the text book to be translated into English".

This passage is selected by the Board of Examiners, translated into written English, and marked by the Local Committee.

Now nobody will dispute that to acquire any knowledge, beyond the merest nodding acquaintance of any foreign tongue, to read good prose written in the choicest style that the literature of the language can afford, is a primary essential.

The question is then :—Does the "Bagh-o-Bahar," the text book now in vogue, supply this want? Does the perusal of such a work help the student, when he translates from English into Urdu, to write clearly, grammatically, and in accordance with modern idiom?

I set down the answers to these two questions as a decided negative for the following reasons :—

- (i) The book is archaic and obsolete in style. It belongs to a comparatively remote period, and cannot therefore be taken as a guide of the constructions and idioms now in use.

- (ii) The text of the narrative is crammed with an excessive number of Persian and Arabic words.
- (iii) The subject matter is both uninteresting and uninteresting.

Now in order to serve its purpose, surely the text book should at least be up to date as regards metaphor and style! It should be the best obtainable example of educated native composition. Such an ideal is surely not impossible of access! Of course I am aware that every educated native interlards both his conversation and his composition with abstruse Persian and Arabic words; but not so much as formerly, and certainly not so much as the compiler of the *Bagh-o-Bahar* would lead us to believe—at any rate nowadays.

The whole language, as most of my readers are aware, is largely plagiarised from Persian and Arabic sources. It owes its origin to the days of the savage Timur or Tamerlane; who bursting down through the Northern passes upon the rich marts of Upper India, enforced his presence and his yoke upon the unwilling plainmen; and the blending of his language with the Hindi of the original inhabitants shews us the parentage of Urdu—the language of the camp—for so its name implies:—a *modus vivendi* between conquerors and conquered.

But *revenons à nos moutons*. There are many good newspapers published now-a-days in the vernacular, and some good works of fiction: many of these are excellent specimens of correct composition and style, and there is little doubt that the perusal of them would be of more interest and of more practical utility to candidates than the story of the Four Dervishes or Azad Bakht. We suggest then that a book be compiled containing extracts from such works chosen from the best modern native writers and from newspapers: these selections to be in a simple narrative style, and chosen in view of the possibility that from reading them the candidate should learn to write decent Urdu prose. It is the inability to do this, or even to come anywhere near it, that brings so many to grief in these examinations.

I do not see why the passage selected for translation at the actual examination need necessarily be out of the text book, but it should be in the same style; and I advocate the use of a dictionary by the candidate, if the passage is an unseen one.

It would also save trouble if the Board of Examiners were to enclose a translation for the convenience of the Local Committee, which has to award the marks in this subject.

We now come to the second item, the rock upon which so many hopes are shipwrecked. For how often do we see a candidate, after emerging successfully from the ordeal before the Local Committee, come to hopeless grief over the "exercise," which is corrected by the Board of Examiners!

To quote from the regulations on the subject. *Army Regulations, India, Volume II, part A, paragraph 1263, postulates:—*

"A written translation of English into Urdu with tolerable correctness of idiom and grammar"—a phrase capable of considerable latitude of interpretation. On the assumption though that the object of any examination is to discover not what a candidate does not know, but what he does know about any specific subject, it appears to us that the passage selected should be a fairly easy piece of narrative on the same lines as that for translation from Urdu into English.

For instance, it should only include words and expressions that would be of use to a candidate in his ordinary intercourse with the natives of the country, and for this reason I would suggest simple accounts of a military operation, a passage from history, "shikar" experiences, or an easy description of topographical features.

I would again advocate the use of a dictionary: by its aid a missing word could always be supplied, and after all no dictionary professes to teach correct syntax or style, and it is by the presence of these that real proficiency is made manifest. Spelling is generally a great stumbling block to a beginner; and it may be urged that a dictionary would too charitably cover a multitude of sins in this respect. It however appears to us that the time limit, within which the exercise has to be completed, would preclude too laborious a poring over the pages of a dictionary, and that the wealth or poverty of a candidate's vocabulary would be sufficiently tested by his conversation and *vivâ voce* translation of the paper of sentences, which forms another part of the examination.

By this concession a candidate would be spared the profitless labour of cramming his memory with a long list of words, more than half of which he probably does not remember a fortnight after the examination, and more time could be devoted to cultivating correctness of grammar and idiom—now so frequently conspicuous by their absence. Conversation with his munshi or other natives should in time give him a rich enough vocabulary for all practical purposes.

Reading and translating an Urdu manuscript forms the third subject in the test by the Higher Standard. The successful deciphering of these manuscripts is an art that is easily acquired by practice and as easily forgotten by the want of it. I have frequently noticed that men who can hardly translate into correct Urdu the simplest imaginable sentence, are able nevertheless to acquire a very respectable degree of proficiency in reading and construing the "urzi."

It is certainly necessary that a man should be able to read writing in manuscript: the present test seems a very fair one: it does not appear to be above the capacities of the majority, so no useful purpose would appear to be served in altering it.

The colloquial test is always a difficulty both for the Local Board and its victims. It is not easy to urge an unwilling candidate out of the simple question and monosyllabic answer age; and unless he can be induced to overcome his diffidence and converse with some show of freedom and fluency, to judge of his capabilities in this impor-

tant branch of the examination requires considerable discriminating power. The sepoy's that are detailed to assist the committee are generally as ill at ease as the candidate : bearing in mind the fact that it takes two to make a conversation, it must, I think, be conceded that the ordeal is a trying one for all concerned. All officers should know the Hindustani names for the different articles which compose a sepoy's kit, uniform, and accoutrements ; the different kinds of grain exposed for sale in the bunnia's shops, and all words that might be reasonably expected to occur in a report delivered by an outpost patrol, such as the cardinal points and simple expressions describing features of landscape. A cavalry officer in addition should know all the details of his own and a sowar's saddlery, colours of horses—*e.g.*, " bay," " roan," " chesnut " etc., words used in stable management, and the simpler ailments that equine flesh is heir to.

With modest and diffident candidates, it is often necessary to test their knowledge in this way, especially if the sepoy's detailed for conversational purposes are as diffident as they are.

In addition to these conversational efforts, and as part of the colloquial test, our victim is further required to translate *vivâ voce* some simple sentences into passable Urdu. These sentences generally form a simple narrative of some every day occurrence and the idea of them is admirable in every way. It enables the board to judge of the nature and extent of a man's vocabulary, and whether he can express himself with sufficient clearness to be readily understood by the class of native with whom his work as an officer of sepoy's will lie.

The importance of this part of the examination it is impossible to overrate. That an officer should understand his men and be understood by them is the great desideratum to which all the other subjects of the examination may be considered as merely accessory,—mere components of the machinery of which this is the mainspring.

This is the whole examination which, under existing regulations, is conducted and decided by the Local Committee, except that " the exercise " or piece of translation from English into Urdu is set and marked by the Secretary to the Board of Examiners at Calcutta or Bombay, or the Examiner in Hindustani in Madras, as the case may be ; and that the same official selects (but does not mark) the passages from the text book, the Urdu manuscript, and the colloquial sentences. By a recent General order only 50 per cent of the total number of marks, and 35 per cent in any one subject, are required to pass, except the colloquial test, for which very properly at least 60 per cent. are necessary.

To sum up then, the reforms that I propose are as follows :—

- (i) The substitution of a more modern style of text book or of native newspapers for the Bagh-o-Bahar.
- (ii) Dictionaries to be used for the translation of Urdu into English.

The candidate need not necessarily have seen the passage selected before.

It should be thoroughly up to date as regards construction idiom and style.

As an alternative to this, one piece might be given from a text book, and another might be an unseen passage.

(iii) Dictionaries to be used for the exercise.

As a set off against this concession, a higher standard as regards idiom and style might not be unreasonable.

The remainder of the examination to stand as at present.

I would run the Lower Standard Examination, which is a mere stepping stone to the Higher, on the same lines.

A less degree of excellency is expected, so the syllabus must be modified accordingly. With the exception of the use of a dictionary, which I strongly advocate, the test as it stands at present seems to answer its purpose well enough. As in the Higher Standard though, the old fashioned Bagh-o-Bahar should be done away with.

Some officers in the Staff Corps have, in addition to the Higher Standard Urdu, to pass a qualifying test in Pushtu, Punjabi, Parvatiya or other vernacular languages which are in common use in the regiments they may happen to belong to.

Judging from the syllabus of these examinations, the test appears reasonable enough, but a want of practical experience prevents me from offering any comments or suggestions about them. They do not seem to have provoked so much hostile discussion, and criticism, nor to have caused the same amount of discontent as the Urdu tests, so I will leave them alone in the belief that those that have to grapple with them are in a fairly contented frame of mind.

It may seem to some rather anomalous that an officer in a regiment that is recruited—say entirely from Punjabis—should also be compelled to pass the Higher Standard in Urdu. This contention though will not bear close investigation. Urdu in slightly varying forms is the *lingua franca* of India from the Himalayas to Cape Comorin, and any man who is destined to devote the best years of his life to service in this country should possess a working knowledge of it.

This particularly applies to those who wish to register their names for employment on the staff, coupled with the fact that officers in the Staff Corps are liable to be transferred from one regiment to another, if the exigencies of the service require it.

We now come to what for want of a better term I will call "Fancy Languages," such as Persian and Arabic, which do not form a necessary part of any officer's mental equipment, and which, therefore, are as a rule severely left alone by the large majority. In this category I will also include the High Proficiency Examination in Urdu.

It is to begin with no easy matter to secure a competent teacher in these subjects. The average munshi is grasping and incompetent besides seldom having any fixed and defined system.

I have never seen any statistics on this subject, but I should imagine that in spite of the generous pecuniary rewards that Government offers as an incentive to pass these examinations, the number of candidates that are likely to present themselves in future is more likely to fall off than to increase. We have been hearing a lot about the stupidity, indolence, and luxury of our officers from the newspapers and fireside critics at home lately—views of the state of affairs in which the degree of knowledge is not always proportionate to the amount of assurance displayed by our judges. Certainly the very pessimistic report hatched by Mr. Akers Douglas and his colleagues is not likely to spell any increase in our leisure hours; and much leisure, much application, and some natural aptitude are all necessary to pass a High Proficiency Examination. Then again, it behoves us to keep our bodies as well as our minds in an active state: with due regard to the bard of Anglo-India, it is to be devoutly hoped that the British officer will never cease to occasionally assume the rôle of the “muddled oaf” and “flannelled fool”—in short to be an athlete and a sportsman,

Apart though from the increased demands that our professional duties may make upon us—demands that have multiplied within the last few years, and in existing circumstances are not likely to diminish—what does an officer gain by a knowledge of Persian or by passing a High Proficiency Test? The pecuniary reward is but a transient blessing, and from its specious looking bulk the cost of the necessary books and the necessary tuition must be deducted.

I do not forget in passing that recent regulations require the President of a Local Examining Committee to have passed the High Proficiency Examination, and further pay him a fee of Rs. 100 for his labours: still no prospects are held out, no preferential claim for suitable employment is tendered as an encouragement to study, and yet the Government by offering these high money rewards seem to attach some form of importance to proficiency in Oriental languages!

Why should not appointments in the Political Department and the Consular Service be reserved for officers of high linguistic attainments irrespective of whether they belong to the British or the Indian service?

We English are proverbially bad linguists, and it seems probable that neither the civil nor the military officer of today knows as much of the vernacular of the people as his predecessor of a former generation.

Nor are the causes hard to seek.

The conditions which then prevailed rendered service in India a practical expatriation for the best years of a life time. A journey

home was not the simple matter it has since become. It was a question of months, not of days : the expenses were enormous ; consequently it was undertaken much less frequently than at present.

As a natural result, men made the country their home and their life interests were centered out here in India far more than can be the case nowadays.

In this era of the Suez Canal, electric telegraphs, and fast liners the young officer on landing in India sees no vista of thirty years exile before him, nor is he prepared to leave behind him the associations of his earlier days. He looks forward to the time when he can " put in " for a furlough, and so gather together again the threads that he has only temporarily parted with. He does not as he gets on in service become antiquated, " behind the times," nor irritable of temper in accordance with the " sealed pattern " Anglo-Indian of forty years ago. If he lacks the amiable simplicity of a Colonel Newcome, neither does he wholly subsist on curry and hot condiments, nor does he necessarily develop the proverbial liver.

He is in fact from the nature of existing causes less identified with the country than formerly : it in no sense becomes his adopted home ; and it is no disparagement to the able body of men who enter our Indian services, to affirm that such conditions must have their influence upon the degree of efficiency which, in ordinary cases, is likely to be attained in the languages of India.

Among the officers of our Native Army what is wanted is not an academic knowledge of accidence and syntax (except among those who like to acquire it) such as might be expected from a *Regius* Professor ; but as good a practical grasp of the ordinary vernacular as will serve them in the commonplace daily routine of regimental life.

NAPOLEON AS A GENERAL*.

BY HISTORICUS.

I.—EARLY CAREER.

The literature of the Napoleonic era has been greatly added to of late years as fresh facts have come to light regarding that great man whose life and times can never lose their transcendent interest to the student of war and politics. History is best viewed from the perspective lent by time, when the struggles and passions of past generations have crumbled into dust, together with the actors in the scenes to which it relates. Events can then be viewed dispassionately in the clear light left by the passage of time, unclouded by the glamour or the shadow cast by close proximity. Colossal as were his proportions, and satanic as was his fate, the contemporaries of Napoleon regarded him as either god-like or demoniac, according as they ranked him among their friends or enemies.

They were unable to view him as a man, guided by human reason and impelled by human instincts; indeed in his consciousness of his intellectual superiority, he was unable to so regard himself, but, blinded by the vanity which was the outcome of his genius, he looked upon himself as a being outside the ordinary run of humanity, superior to its laws, and beyond the pale of its traditions.

Among the latest contributions to Napoleonic literature is that by Count Yorck von Wartenburg, bearing the title of this paper, and possessing more interest to the soldier than most other works on the same subject, as being the production of a soldier and containing a critical analysis of the campaigns of the great commander, and not constituting a mere historical disquisition, like the volumes of Sloane and other recent writers, which, valuable though they be to the student of history, are not of much use to the soldier who desires to study military science in the works of its greatest exponent.

As the author says in his opening chapter "Every one desirous of studying war must do so from the actual records; war must be studied by war itself. It is only by examining the history of former wars that we arrive at a just comprehension of what war really is." This principle Napoleon himself recognised when he said "Peruse again and again the campaigns of Alexander, Hannibal, Cæsar, Gustavus Adol-

* Napoleon as a General. By the late Count Yorck von Wartenburg, 2 Vols. 1902.

Note.—Count Yorck von Wartenburg was on the Prussian General Staff, and met with an untimely end in China from suffocation due to a charcoal stove in an unventilated room. His book has been translated into English, and published as one of the *Wolsley Series* by Messrs. Kegan Paul, Trench, Trübner and Co.

phus, Turenne, Eugene, and Frederick. Model yourself upon them; This is the only means of becoming a great captain, and of acquiring the secret of the art of war."

The author commences with a sketch of Bonaparte's childhood and early life, pointing out that in order to understand war, one must understand the men who waged it; and that it is necessary, as it were, to penetrate the brain of the general in order to find out the origin of his resolutions. This, we are too apt to forget in these modern days of the perfection of scientific appliances; we are apt to lose sight of the importance of the psychological character of both nations and individuals in war, for man is the primary instrument, and in comparison with him all else is of relative importance.

In his early youth he does not appear to have shown any marked signs of genius, and he did not distinguish himself in his examination when passing out of the Military Academy. His character was, however, very correctly gauged by a discerning teacher, who thus described him in his testimonial:—

"Retiring and diligent, he prefers study to amusements of any kind, and delights in the reading of good authors; he is devoted to abstract sciences, with little leaning to others, is well versed in mathematics and geography; is taciturn, loves solitude, is obstinate, proud, and exceptionally inclined to egotism; speaks little, is energetic in his answers, ready and severe in his refutations; possesses much love of self, is ambitious and hardworking. This young man deserves to be pushed on." As military education is now a burning question, this early portion of Bonaparte's life is particularly interesting; for, although it in no way gives promise of the glorious future, one can discover in it traces of those characteristics and habits which led to the unfolding of one of the greatest intellects the world has produced. It is remarkable and noteworthy, in this connection, that, when in his first garrison at Valence, "he continued to occupy himself with science and with reading much in the most varied domains of thought, except in a military direction, which he seems to have somewhat neglected." This points to the necessity and value of a sound and extensive general education for the soldier, who should not only be a military student but a man of wide knowledge in all departments of learning—in war, in politics, in science, art, and literature. And in this connection I may well quote Mr. Spencer Wilkinson, who recently wrote "If an Army is to be a healthy member of the body politic, an efficient national organ for national purposes, its officers must have a dual qualification. On the one hand they must be masters of their profession, and on the other hand they must be what are called "educated men." The best officers must be on the same intellectual level as the best men in the other professions and in public life. The men at the head of an Army, the typical products of its corporate existence, ought to be intellectually and spiritually the peers of the leaders in other branches of life, living on what Matthew Arnold called "the first plane," and in touch with the movement of national policy, and of literature, science, and art. Only on the first plane can any man

be a statesman, and unless the chief men of an Army are statesmen, a nation will fight its battles in vain. The battles may be won, but the fruits of victory will be lost."

It seems to me that in these lines lies the gist of the problem of the supplementary education of officers, and the secret of the success of Bonaparte the General, and Napoleon the statesman, the man of Marengo, of Austerlitz and of Jena.

Another point to note in the early career of Napoleon Bonaparte, in his deeds at Toulon and with the Army of Italy, is his grasp of details; which, however, he estimated at their true value, not permitting them to obscure his view of the main issue. Thus the author of the book under review tells us:—"It is one of the surest marks of a true general, that he knows in every situation how to set aside details and matters of secondary importance, and to combine and direct all the moral and physical forces at his disposal to the principal aim; once the latter fixed upon, the necessary details follow almost as a matter of course, at any rate any capable officer on the staff of the general can determine them." Marmont says, very justly: "I never met with a single man of distinction, and capable of the conduct of great affairs, who was not in the habit of putting on one side all details and contenting himself with regarding the work he had entrusted to others."

No general of modern times exhibited this freedom of judgment, unobscured by any concern for details, in such a high degree as Napoleon; in this alone lies the explanation of his splendid successes. We see, in a lesser degree, the same faculty in Wellington, notwithstanding his wonderful command of detail as evidenced in his Despatches.

II.—ITALY.

Bonaparte's first independent command was that of the Army of Italy. He had already distinguished himself at Toulon, and under Barras in Paris. He was now to appear in a greater arena, more suited to the capacity of his illimitable genius.

His great successes have often been ascribed to the inspiration of the moment, but there can be no greater mistake. All that he undertook was previously thought out, and as Bourrienne tells us, "whatever great deeds he did as emperor were only the results of plans which he had conceived long before, and at a time when his future rise was only a dream, or rather a natural outcome of his powers of imagination. Commenting on this phase of his character, von Wartenburg truly remarks:—"Only the man who is constantly occupied with great thoughts will be able to form a great resolve when the decisive moment appears." Thus he had long before written a memorandum on a campaign in Italy, so that his appointment to the command of the Army found him with a plan ready formed, and on familiar ground.

The spirit in which he entered on his first campaign breathes in the proclamation which he issued on assuming command of his Army at Nice on 27th March 1796:—

“*Soldiers!*—You are naked and ill-fed; the Government owes you much, but can give you nothing. Your patience, your valour among these rocks have been admirable, but they bring you no glory; not a ray falls upon you. I will lead you into the most fertile plains on earth. You will conquer rich provinces and large towns, there you will find honour and glory and wealth. Soldiers of Italy, will you be wanting in courage or endurance?”

Surely Alexander of Macedon had been reincarnated!

It is interesting to note his personal appearance at this time, which, we are told, had nothing of dignity about it. The Greek features and the commanding and awe-inspiring bearing were subsequently developed. He was now over 26 years of age. “Owing to his thinness, his features were almost ugly in their sharpness; his walk was unsteady, his clothes neglected, his appearance produced on the whole an unfavourable impression and was in no way imposing; but in spite of his apparent bodily weakness he was tough and sinewy, and from under his high forehead there flashed, despite his sorrow face, the eyes of genius, deep-seated, large, and of a greyish blue colour, and before their glance and the words of authority that issued from his thin pale lips, all bowed down.”

The army of which he took command had in its ranks many senior and more experienced officers, who might well have resented and doubtless at first did resent the appointment over them of a commander who was little more than a boy. There was Berthier, henceforth his chief of the staff; Massena, a great leader of men; Augereau, brave and clever—a conspicuous figure throughout the 20 years’ drama to come; Serurier—of great experience in war. Marmont, Junot, and Murat, whose names appear on every page of the history of those times, were his aides-de-camp. And over these was placed a youth who had practically no experience of war! A fact which may give pause to those who contend that a general without such experience should not be given a command in the field. It may well be remembered that campaigns may furnish men with experiences, but not with the brains to make use of them.

His army was scattered, and he had a superior force to contend against, having himself 37,000 men, whilst there were 35,000 Austrians and 25,000 Piedmontese to oppose him.

His first acts were to ensure his communications and to secure his commissariat until he should be able to replenish it on the rich plains of Lombardy. This done, he was ready to march in a fortnight after his assumption of command, when the Austrians under Beaulieu had already taken the initiative.

In the space at my disposal it is only possible to deal with the main features of the campaign, which may be very briefly described.

Bonaparte's design was to separate the Austrians and Piedmontese ; to force the latter to submission, thus leaving him free to deal with the Austrians. With these objects in view he made a strategic move against the enemy's centre, and a tactical attack on his flank. The hostile forces were split in two ; the Piedmontese were forced to surrender ; the Austrians were then defeated in a series of operations culminating in the battle of Lodi, and were driven back upon Mantua, and on May 15th the conqueror entered Milan, having subdued not only Piedmont but the whole of Lombardy.

It has often been observed that Napoleon conquered his enemy with inferior forces. This is not entirely correct. Victory, as he himself said, was invariably on the side of the big battalions. Certainly he beat his enemies *strategically* with inferior forces, but he was always careful to concentrate on the point of tactical contact a force superior to the forces opposed to him at that point. Separating to live ; gathering to fight ; the rapid concentration on the decisive point ; the lightning blow, and relentless pursuit, following on dispositions made not merely with a view to defeat but to destroy the enemy—these were the characteristics of the action of Napoleon as a general in this and in all his campaigns. With him victory was not merely a set-back to the enemy ; it meant the fate of Empires and the fall of dynasties.

Having forced the Austrians back to the line of the Mincio, Bonaparte halted for a time at Milan to set his conquests in order before making a further advance. At the end of May, taking advantage of the wide dispersion of his adversary's army, he concentrated his forces at one point, made the passage of the Mincio, and then executed a most effective movement for forcing the Austrians off their lines of retreat, thus obliging them to retire hastily into the Tyrol : so that, eight days after his advance from Mantua, he was able to write to the Directory :—"The Austrians are completely driven out of Italy. Our outposts hold the line of the mountains of Germany."

III.—MANTUA.

In the meantime Mantua was occupied by 13,000 Austrians, whose main army was being rapidly reinforced with the intention of a fresh advance into Italy, to relieve Mantua which Bonaparte besieged, and to recover the territory they had lost.

With this object, the Austrian army under Würmser and Quasdanovich advanced in two columns at the end of July, forced the French front at La-Corona and Rivoli, and threatened their line of communications with Milan and Verona. Bonaparte withdrew behind the Mincio, and there concentrated his forces, thus having the advantage over the enemy, who had not yet learnt the value of concentration for battle, expressed thus by Napoleon himself :—

"If you wish to fight a battle, collect all your corps, do not neglect one of them : one battalion may sometimes decide the day."

Falling on the Austrian columns in detail, he beat Quasdanovich on 3rd August, and on the 5th and 6th encountered and defeated Würmser, who then ordered a general retreat to the Tyrol, having suffered a loss of 16,000 men. Bonaparte advanced to the Adige, but with remarkable prudence there halted, remaining in observation of the line of the Austrian advance, and covering the siege of Mantua, which was now resumed.

His decision which had led him to abandon temporarily the siege of Mantua and to concentrate all his forces against the Austrian advance was a wise one, and was in accordance with his principle of neglecting secondary objects and holding fast to the main one. Some would have it that he should have drawn lines of investment round Mantua, and held them until the fall of that place. But had he done so, he would himself have become the besieged, and, as he himself said, "it is an axiom of strategy that he who remains behind his intrenchments is beaten." The author of this book adds:—"The history of war shows us, since Marcellus broke out of Nola in 216-B.C., not a single example of an army invested in a fortress delivering itself by its own strength; while, on the other hand, it shows us many examples of such armies which had to surrender along with the fortress."

On this occasion Bonaparte's immediate aim was certainly to capture Mantua, but his principal aim was to hold the line of the Mincio.

Early in September, Würmser again moved forward, but, attempting to unite his forces too near to the enemy's presence, was again beaten in detail, and forced to retreat. The desperate efforts of Alvinczy to relieve Mantua, involving the battles of Arcola and Rivoli, were no more successful, and that place fell on the 3rd February 1797. The correct recognition of the decisive point, and the concentration and direction of his forces on that point were the main characteristics of Bonaparte's action during this phase of the operation, whether strategically on the theatre of war, or tactically on the field of battle.

The Austrians again assembled fresh forces, this time under the Archduke Charles, who had gained considerable prestige as a general during the campaign in Germany the previous year. But Bonaparte had also received reinforcements, and on the 10th March found himself strong enough to advance into the enemy's country, with the object of threatening his capital. Detaching Joubert with a force to act against the Tyrol, he himself advanced with his main body against the Archduke Charles, and gradually drove the latter back until the road to Vienna lay open to him. On April 7th the head of the French column entered Leoben, only ninety-five miles from the Austrian capital. This brought the campaign to a conclusion. The treaty of Leoben followed, and peace was soon afterwards concluded at Campo Formio. Thus in one short year from the time he took command of the army of Italy, Bonaparte had driven the Austrians

out of Italy, and reduced the greater part of that country, had advanced to within a few marches of Vienna, and there dictated his terms to the enemy. In this last phase of the campaign it is noteworthy that he departed from his main principle of advancing on one line; for, as he himself said,—“to operate in divergent directions without any lines of communications is a mistake, and it generally entails another. The detached column has orders only for the first day; its operations on the second depend on what the main column has done; the former therefore loses time in waiting for orders, or it must depend on good luck.” He was, however, strong enough on this occasion to neglect this principle, but it cannot be too clearly recognised that he appreciated the necessity for certain rules and principles in the art of war, and the modern tendency to aver that such rules and principles do not exist and that every case in war is something new, which must and can be considered only by itself, and that practical experience and not theory is the key of the art, cannot be too emphatically refuted. On this point Napoleon said: “The art of war is an art with principles, which should never be violated.” And again:—“All the great generals of antiquity, as well as those who have since worthily followed in their footsteps, accomplished their great deeds only by obeying the rules and principles of the art, *i.e.*, by the correctness of their combinations and a careful balancing of means and results, efforts and obstacles. They have been successful only by adapting themselves to these rules, whatever in other ways the boldness of their undertakings and the extent of their operations may have been. They never cease to make war a real science. To this extent are they our great examples, and only by imitating them in this manner can we hope to emulate them. The principles of the whole art of war are those which guided the great generals whose grand exploits history has handed down to us.”

In fact, his other saying that “Circumstances govern everything in war” applies not to the main principles of the art, but to the method of their application.

It was his recognition of these truths, his application of principles which are as old as the world itself in the light of reason that led to his great success. On him the eyes of Europe were now turned as on a heaven-born general. Writing to the Directory at this time, General Clarke said—“Here there is no one but looks upon him as a man of genius. He has great power over the men who form the Republican army. His judgement is sure; his resolutions are carried out with all his powers. His calmness amid the most exciting scenes is as remarkable as his extraordinary rapidity in changing his plans, if forced to do so by unexpected circumstances.”

The impulse which urged him on was personal ambition, and love of glory, without which effort can never be carried to its just conclusion. And in this he differed from Hoche and Moreau who halted on the Rhine to await the pleasure of the Directory.

His ambition was that which led him to say: "I hold the immortality of the soul to be the remembrance which we leave behind in the minds of men. This thought is an inspiring one; it were better not to have lived at all than to leave no trace of one's existence behind."

IV.—EGYPT AND SYRIA.

On his return to Paris, Bonaparte found that all was not yet ready for him to scale the glittering pinnacle of fame that formed the goal of his ambition. His eyes were already turned towards the East, where he dreamt of following in the footsteps of the great Macedonian. At this time he said:—"My glory is already at an end; there is not enough of it in this little Europe. I must go to the East; all great glory comes from there." And again—"Europe is a mole-heap; only in the East have there ever been great Empires and great cataclysms; in the East there are six hundred millions of human beings."

In these circumstances the expedition to Egypt was organised, and on 28th June Bonaparte landed at Alexandria, having with him an army of some 30,000 men. On the 2nd July Alexandria was surrendered with little resistance, and on the 22nd Cairo was occupied, after the battle of the Pyramids had been fought. In this expedition the genius of the general was apparent in his ready adaptation to fresh circumstances, and he quickly grasped the tactics necessary in dealing with an Eastern enemy on an Eastern theatre of war. In the battle of the Pyramids, whence forty centuries looked down upon him, he formed his divisions in large squares chequer-wise, supporting each other. Advancing in this formation he brought his right wing forward, and drove the Mamelukes back upon the Nile, where many perished in the turbid waters. In his subsequent movement down the Nile against Murad some of the troops were transported in boats. History repeats itself, and we see much the same tactics employed in our Soudan Campaign which took place more than eight decades afterwards.

During his campaign in Egypt Bonaparte's army suffered terribly from the climate, and it was perhaps more in his influence over a somewhat demoralised army that the general's capacity exhibited itself than in any other manner. But the great commander's presence and example put new life into his men, and nerved them to fresh efforts.

Not was he daunted when the French fleet was destroyed at the battle of Aboukir, and his army thus apparently cut off from France. His imagination, already fired with futile visions of Eastern conquest, took a yet bolder flight. He saw himself master of the Orient from the Mediterranean to the Indian Ocean. He would return from a tour of Eastern conquests at the head of Eastern nations, and so march back through central Asia on the footsteps of Alexander, through Vienna to Paris. He himself said:—"In Egypt, I saw myself freed from the fetters and constraints of

civilization; I dreamt all sorts of things, and saw the means of carrying out what I dreamt. I pictured myself on the road to Asia on an elephant, a turban on my head, and holding in my hand a new Koran, which I had written myself from my own inspiration. I should have combined in my enterprises the traditions of the two worlds, putting under contribution for my own advantage the whole domain of history; I should have attacked the British Empire in India, and restored my connection with old Europe by that conquest." He did, in fact, enter into communication with Tipu Sultan in Mysore, whose intrigues with the French were about to bring about his downfall.

But Bonaparte's dreams of Oriental Empire were destined to fall before the walls of Acre, although they were finally quenched only in the snows of Russia. His expedition to Syria did not give much opportunity for a display of generalship. Jaffa was taken and its inhabitants were put to the sword; the failure before Acre necessitated a retreat to Egypt, where, after destroying the Turkish army at Aboukir in a Napoleonic battle in which not a man of the enemy escaped, he embarked for France. The pear was ripe, and he saw that the time had come for him to pluck the fruit. One of the characteristics of the general in this campaign was the severity he exercised when necessity arose. On this point Count Yorck says writing of the execution of 2,000 prisoners taken at Jaffa:—"In the eyes of merely didactic historical writers, this deed may appear horrible and revolting, but practical military history must not consider it as such. The safety of one's own army, on which the possibility depends of ultimately gaining the victory, must outweigh all other considerations. If such an act is necessary for the safety of one's army, it is not only justified, but its repetition in any future war would be advisable, and no convention could alter this fact. In the exceptional circumstances of warfare, no other motto is permissible but this *Salus publica summa lex*! Bonaparte possessed the strength of mind to be hard and to look on men at certain times as mere counters; and this strength of mind a general must possess."

V.—MARENGO. THE INVASION OF ENGLAND.

After the coup d'Etat of 18th Brumaire Napoleon was no longer a general only. He now stood on the threshold of Empire, and henceforth we have to deal with him in his dual capacity as commander and autocrat. He found the military situation considerably altered during his absence in Egypt. The unfortunate campaign of the preceding year (1799) had undone all he had accomplished in Italy, where Piedmont had been reoccupied by the Austrians, and Massena was standing on the defensive on the line of Genoa and Savona; whilst Moreau had 120,000 men massed on the Rhine, facing a German army of similar strength.

Napoleon's first action was to organise a Reserve Army of some 30,000 men for the invasion of Italy, which he placed under Berthier's command, being unable, as First Consul, to take command of an army himself.

At this point it is interesting to adumbrate the main features of his original plan, as it is characteristic of his simple yet effective and far-seeing strategy, although it was not carried into effect.

This plan was to mass his troops against the Prussian left wing, drive them off their line of communications and destroy them on the Rhine, thus leaving open the road to Vienna. This would automatically defeat the Austrians in Italy who would thus be cut off from their base, and the principles herein formulated and satisfied were briefly as follows, according to our author :—

1. The principle of having only one line of operations, keeping the mass of the army massed in one direction.
2. The principle of making the main body of the enemy's army the objective.
3. The principle of choosing the line of operation in such a manner as to place one-self on one flank, or, if possible, on the rear of the enemy and thus cut his communications.
4. The principle, which follows logically upon the preceding one, of turning the enemy's strategical wing, that is, the one, the turning of which will most effectually drive him off his line of communications.
5. The principle of keeping one's own communications open.

But Moreau would not fall in with the plans of the First Consul who, seeing that he could not trust to other hands the execution of this scheme, conceived the plan of carrying into effect a campaign in Italy which would have similar results. The famous campaign of Marengo followed. Napoleon concentrated his reserve in the Cis-Alpine region, crossed the Alps by the St. Gothard, and placed himself astride of the communications of the Austrian Army, keeping his own communications open. In the meantime, Massena had retreated on Genoa and was there forced to surrender to numerical superiority.

The Austrian and French forces met at Marengo, the former being at first victorious, but the defeated French Army rallied and turned on their pursuers with the result that the tables were turned, and the Austrians defeated. Next day the latter sued for peace.

In this campaign Napoleon fully proved the truth of his saying that "The secret of war lies in the secret of the lines of communications". The enemy's defeat entailed decisive results, while had he himself been defeated, his lines of communications remained open, and he could have retreated and reassembled his forces. There is one remarkable point about Marengo, however. The First Consul departed from his principle of assembling all his forces for battle, perhaps owing to the overweening confidence he had acquired in his own fortune and his own genius. With the peace of Luneville the war on the continent ended, but was resumed in 1805.

In the meantime, after the rupture with England in May 1803, Napoleon, crowned Emperor in 1804, conceived a plan for the invasion

of England, regarding which it is interesting to have the views of a Continental writer, expressed thus by Count Yorck von Wartenburg:—"This plan shows his genius at its full height. The idea which underlay his landing was perfectly correct; it was a "putting into practice the highest rule of war, namely: Try to put your strong points as to time and space against the enemy's weak points." Napoleon's strength lay in his army and in war on land: England's strength consisted in its fleet and in war at sea; to attack her in such a way that his strength might be brought to bear, was therefore assuredly good strategy. Napoleon has been condemned because the execution of his plan is said to have been impossible. But if we remember all that has been declared impossible in the history of the world by contemporaries, and yet was achieved by the power of genius, who can say that a landing of his army in England would have been an impossibility for Napoleon. Hannibal's great plan of crossing the Alps and attacking Rome in Italy, and conquering it there would perhaps be considered impossible now, if it had remained a plan only.

The fact that this landing was not effected and England not conquered, is generally considered by historians as the salvation of Europe, for one country at least escaped Napoleon's domination. I do not share this opinion. The states of the continent suffered at the time too severely and directly from Napoleon's tyranny for them to realise that England had no less exclusively, though in a more practical and enduring manner, its own interests in view during that time, and by no means those of Europe. Had Napoleon entered England at the head of his army, his strength would on the one hand have been weakened thereby, and the continent would have obtained greater freedom of action, and on the other hand England, shaken to its very foundations at home, would not have been able to concentrate, as it did, almost the whole colonial possessions of the world in its own hands, and the continental powers would now-a-days have a more equal share of them."

I have quoted this disquisition *in extenso* for reasons not wholly connected with the subject of this paper. It may be taken to voice the opinions and sentiments of the Prussian General Staff, of which the author was a prominent member. The Prussian General Staff are well known to hold the opinion that the effective invasion of England is quite within the range of practicability, and in the above-quoted views we can discern the existing Teutonic jealousy of our colonial power and prosperity. Let us hope that when Hannibal appears at our gates he will find us fully prepared!

VI.—ULM-AUSTERLITZ-JENA.

Whether Napoleon really intended to invade England or not, his preparations had one practical result. They enabled him to get ready for aggressive purposes on the continent, without exciting the suspicions of the powers, an army which he described as "the best that ever existed." The abandonment of his plan of invasion is generally ascribed to the destruction of his fleet at Trafalgar, but it is

singular that our author makes no mention of that great naval battle, whether from his jealousy of England or because he considers that it exercised no influence on Napoleon's actions does not appear. Whatever the cause, he suddenly decided to march against the Austrians, with whom Russia had entered into an alliance. Early in September he moved towards the Rhine with 219,000 men, and by October 20th he had surrounded Mack at Ulm and forced that general to surrender before he could receive any aid from Vienna or from the Russians. It is interesting to inquire into Napoleon's method of working, described by Jomini in connection with this campaign:—

"The Emperor was himself really his own Chief of the Staff; holding in his hand a pair of compasses, opened for a distance, by scale, of seven to eight leagues in a straight line (a distance which, reckoning the turnings of the roads, generally covers nine to ten leagues of a march, at least) bent, nay, often lying over his map, on which the positions of his army corps and the supposed positions of the enemy were marked by pins of different colours, he arranged his movements with a certainty of which we can scarcely form a just idea. Moving his compasses vigorously over his chart, he judged in a moment of the number of marches for each of his corps, which would be necessary so as to reach any point he wished it to reach on a fixed day, and then, sticking his pins into these fresh positions, and calculating the speed at which each column could move, he dictated those orders which if they stood alone would entitle him to glory." It is also interesting to note that Napoleon always rose at 1 A.M., dictated his orders, and issued them after that hour. By this method he not only obtained the latest information, and so obviated those alterations which cause so much trouble after instructions have been issued, but the orders reached the troops in the morning shortly before marching, and not, as is usually the case, when they were fatigued after the days' work, and employed in preparing their food and settling down in camp. Moreover, this lessened the chances of the plan of operations becoming known to the enemy.

Napoleon wasted no time after the destruction of Mack. The road to Vienna was before him, and he marched straight upon that place, which he entered on 13th November 1805. The Austrian army had, however, by this time been joined by the Russians, and the occupation of the capital was of little use until the enemy's army had been beaten. To describe the strategical operations leading up to the battle of Austerlitz is not within the space at my disposal, but Napoleon observed the usual principles of massing on the decisive point which distinguished his strategy. It may be noted, however, that his communications had become exceedingly lengthy and consequently weak, so that he risked much in case of defeat. But the General who will risk nothing cannot expect to gain decisive battles. The details of Austerlitz itself are too well known to need recapitulation. It is of interest as the first great Napoleonic battle, conducted under the eagle eye of the General who, standing on the heights of Austerlitz, held the issue of the conflict in the hollow of his hand, and arranged the victory at the decisive moment. The crushing pur-

suit which followed on the battle, characteristic also of the great commander, is noteworthy in this case as in that of Jena. The whole theory of pursuit is contained in the following order, issued at 8 A.M. on the morning after Austerlitz. "The Emperor will personally follow close on the enemy's heels. It is his opinion, that in warfare nothing is done as long as anything remains to be done; no victory is complete as long as an enemy remains in the field..... In the position in which we are, there is only one order to be issued, *vis.*, to inflict as great losses as possible upon the enemy and to improve our victory in every way."

After Austerlitz Napoleon's confidence in his "star" and his invincibility became unlimited, and it is possibly to this confidence, which enabled his imagination to take wilder flights, and to dream of nothing short of the conquest of the world, that his ultimate downfall is to be ascribed. His plans became more comprehensive, and details were correspondingly more neglected. Thus, much was left to his subordinate officers that they were incapable of executing, and he acquired the habit of undertaking enterprises without having sufficient means for their execution. Personal weaknesses also began to develop themselves, including a love of luxury and comfort which was incompatible with camp life.

In October 1806 he massed his troops on the German frontier, secured the line of the Rhine, and took precautions to transfer his base to the Danube in case of necessity. Broadly speaking, the campaign of Jena, which ensued, led up to the crushing of the left wing of the allies, and the pursuit of the remainder in detail while the road on which the Russians might send reinforcements was held.

Napoleon's general strategic plan, here as elsewhere, was to mass his troops against the hostile lines of communication and then to seek battle, which, in that situation, entailed the annihilation of the enemy, and in this connection, and with regard to turning movements generally, it is interesting to quote the principle reduced from Napoleon's campaigns and expounded by Jomini :—

"It is not sufficient for the successful conduct of war to lead one's masses to the most important points; one must know how to bring them into play. If one has arrived at those points and remains inactive, the principle has been forgotten; the enemy can make counter-mancœuvres, and in order to deprive him of this expedient, one must immediately, after having reached his communications or one of his flanks, make for him and give battle."

VII.—EYLAU-FRIEDLAND-SPAIN.

In pursuing the Russians into Poland after the campaign of Jena, Napoleon appears to have failed in bringing them to battle owing to his neglect of his principle of massing his troops on the decisive point. Instead of this he attempted to carry out a concentric movement to

enclose the hostile forces, and thus enabled the latter to escape through the meshes of the net spread for them. Giving up the pursuit towards the end of December, owing to the badness of the weather and of the roads, he gave his exhausted army a rest in winter quarters.

In January, however, the Russians under Bennigsen began to advance against him, and he consequently assembled his forces to turn the enemy's left, having 100,000 men at his disposal against the Russians 76,000. But on 1st February a despatch sent by the Emperor to Bernadotte, and explaining the situation and all his plans, fell into the enemy's hands. Bennigsen, realising his danger, at once commenced his retreat, but halted on the 7th February to give battle at Eylau. An indecisive engagement took place on the 8th, the French remaining masters of the field of battle, and the Russians effecting a retreat next day under cover of their Cossack swarms.

The campaign of Friedland, which followed in May and June, is interesting both from a strategical and tactical point of view, but its movements were involved and complicated, and should be studied in detail as set forth by this and other authors.

With regard to tactics, Count Yorck quotes some interesting remarks of Napoleon on the value of fire, which apply equally in our day, pointing out that "if the individual soldier is not thoroughly drilled in shooting, the best weapon and the best tactical methods will fail to render the fire of the troops effective." The value of musketry was recognised by Napoleon when he said. "Fire is everything; the rest nothing." And again—"It is not sufficient that the soldier should shoot, he must shoot well." With regard to artillery, he said—"A good infantry is without doubt the backbone of the army, but if it had to fight long against superior artillery it would be discouraged and disorganised."

The victory of Friedland was followed by peace with Russia, which, however, it can scarcely be said to have brought about, and we see no such results as ensued after Marengo, Austerlitz and Jena. As the author remarks, "the Emperor's military genius had reached high-water mark, and its waves were beginning to fluctuate. It was still capable of great things, but although the ebb had not yet commenced, there were no longer any indications of a rising tide."

"Tilsit had revealed to the amazed eyes of the world a height of power such as history had never seen united in the hands of any individual man since the times of Attila." These are the opening words of the second volume of the book before me. In the meantime Joseph Bonaparte had been placed upon the throne of Spain; that country was occupied by French armies; and the conqueror had now to face there an uprising which was the beginning of that revolt of the nations which eventually brought about his downfall. The mistake was that of the statesman; Napoleon had not entirely secured his position in the other parts of conquered Europe before turning to the Peninsula. In 1808 he had over 100,000 men in the Peninsula, but in spite of these numbers no progress was made. In Portugal Junot

capitulated to the British with 25,000 men, and Dupont's army of the same strength surrendered to the Spanish at Baylen. The consequence of these and other reverses was that Joseph had to abandon Madrid and fall back to the line of the Ebro.

Napoleon now saw that his presence in Spain was necessary, and early in November he arrived at Bayonne, having previously massed his Grand Army from Germany on the Ebro.

The Spaniards occupied an extended line, whose weakness was at once revealed to the Emperor. Advancing to Burgos, he broke through the enemy's centre, with the intention of destroying in detail the two wings, thus separated. But though correctly planned from a strategical point of view, the execution of the design was so faulty as to meet with only partial success. There was wanting that energy on the part of the general which distinguished his earlier campaigns. Instead of being himself present at the decisive point, he remained at Burgos, and left the execution of his plan to his subordinates, who, brought up in the Napoleonic school, where everything was centred in the hands of the commander, were not equal to the task.

Early in December he entered Madrid, and thence initiated the pursuit of the English Army under Moore which terminated in the battle of Corunna. The author comes to the conclusion that Napoleon failed in Spain because "the statesman set the General an impossible task." No mention is made of Wellington's Peninsular campaign. The Chapter on Spain is of great interest, as in it are quoted many of the Emperor's "notes" on the situation and the measures for dealing with it, whilst some remarks of Napoleon's on national risings and civil war are instructive. "In civil war the most important points must be occupied; it is not enough to march in every direction." And again—"In this kind of war, retrograde movements are never any good. Such movements are dangerous in regular warfare; in a national rising they should never be employed."

He ascribed the difficulty of dealing with the Spanish insurrection to the fact that it was supported by a regular Army, without which support, he says, "national risings can always be easily suppressed."

VIII.—RATISBON—WAGRAM.

In the meantime Austria was contemplating a resumption of hostilities which demanded Napoleon's attention, and obliged him to leave Spain for what he looked on as the more important theatre of war. It will thus be seen that in his great plans he departed from sound strategic principles. Had he abandoned the Peninsular War, he would have been able to mass all his forces and all his energies in one direction to secure the conquest of Western Europe. That done, he could have again turned his attention to Spain.

For the coming campaign in Austria, Napoleon fixed upon Ratisbon as the point on which to mass his forces, where, he said "the

headquarters would be in Ratisbon in the centre of 200,000 men, on the two sides of a large stream, covering the right bank of the Danube which could quickly convey to the army all it could stand in need of." He would thus have his army concentrated as far forward as possible, and would be able to open the campaign in any direction required.

The preliminaries of the campaign were conducted by Berthier—Napoleon's chief of the staff through all his wars. But Berthier did not appreciate the situation, nor did he carry out his commander's principle of massing for action on interior lines. He contrived to get the army split up at wide intervals, and thus place it in a dangerous situation. Commenting on this, Jomini says that Berthier "had failed to grasp the very first principles of strategy in twenty campaigns." And Willisen's remarks on the acquisition of the art of war are interesting in the same connection. "It is true war can only be learned by experience; but what are we to understand by 'experience'? who will gain experience, the man who has been present during this or that event, but has never thought in the least about it, either before or after it or while it took place, or the man who may possibly not have had any personal experience whatever of such matters, but who studies a great number of such wars, and who has always and everywhere examined the causes of the results and learnt from them that certain results always recur, if they had been preceded by the same causes, and who thus has come at last to formulate views and to deduce general principles? Has not the latter 'experience' and the former none? Shall I not by such experience alone learn to know war, whilst by the other I shall remain altogether ignorant of it?"

The French army was not ready to concentrate at Ratisbon, and as the Austrians were advancing, and could reach that place in superior force before the French, Berthier should have concentrated at a point further back, behind the Lech, on the principle that an army should be massed for action at some distance from the point of contact, and should never assemble in the presence of the enemy. The Emperor had, in fact, given him instructions to that effect.

Napoleon arrived on the scene on 17th April, and in sixty hours changed the situation entirely, and averted the threatened danger. The French army was concentrated, whilst the Austrians, having missed the opportunity of attacking their enemy in detail, were themselves separating. On the 22nd the army of the Archduke Charles was attacked at Eckmühl, and driven back upon Ratisbon, which town he seized after expelling the French garrison. During the night he threw a pontoon bridge across the Danube, and effected his retreat without further molestation.

Certainly Napoleon's failure to pursue, and so to completely crush his enemy, is unintelligible. Until this point his operations were brilliant, but the final relentless pursuit which generally characterised his victories was wanting on this occasion. He himself said "The most successful manœuvres I ever carried out, and upon which I congratulate myself most, took place at Eckmühl, and were infinitely

superior to those at Marengo and other campaigns before or since." We are told that in these days the Emperor's activity was tremendous—"Ever in motion, ever present at the critical point, scarcely allowing himself a few moments for sleep or food, he seems to us almost superior to the conditions of physical existence, and is an example of how a strong will and great mental excitement conquer the inertness of the body." He said himself: "Work is my element, for work I was born and created. I have found the limits of my legs, I have found the limits of my eyes, but I have never been able to find the limits of my power at work." With regard to this particular campaign, Count Yorck says:—"The opening of the campaign of 1809 is more particularly interesting on account of the rare spectacle of operations badly begun and then quickly altered for the better and carried to a successful issue. This spectacle is rare in the annals of war, for only a very capable general can furnish it.... We can observe the great effect due to a single individual in strategy when in such a situation the Commander-in-Chief is changed in time."

The road to Vienna was now open and Napoleon marched upon the Austrian capital. This choice of an objective does not appear at first sight strategically correct, as the primary objective of an army should be the enemy, and not any geographical point even though it be the capital. But the Archduke Charles had retreated beyond reach to the mountain fastnesses of the Bohmerwald, and the best course open to the victor was to obtain a moral success by the occupation of Vienna. Count Yorck gives a very instructive account of the operations leading up to the surrender of Vienna, the passage of the Danube and the battles of Aspern and Wagram, the former of which was a reverse to Napoleon, whilst the latter had not that decisive character which had signalled the previous victories of the general. Napoleon's strategy throughout appears as sound as ever, but his tactics were defective. The fact appears to be that he had come to neglect mere tactical details, leaving these to his subordinates, whilst he merely formulated the general strategic plan. This is especially noticeable at Aspern, in the passage of the Danube, and at Wagram. And although this last battle led up to the peace of Schonbrunn, his enemy was defeated, but not annihilated, and still retained the power of offence. Henceforth the decline of Napoleon's power may be traced. The sun of Austerlitz no longer shone so brightly upon his arms. It was setting in the west upon the blood stained battlefields of the Iberian Peninsula. It was soon to rise, shorn of much glory, upon the snows of Russia and the destruction of the Grand Army.

(To be continued.)

SOME FOREIGN ARTICLES OF SPECIAL INTEREST.

FRANCE.

Questions Diplomatiques et Coloniales—January 1st, 1903.

The Question of Morocco—With Sketch Map.

In this article the writer attributes the recent revolt in Morocco to religious causes, and gives a brief outline of the events leading up to the actual outbreak of hostilities early last November.

He then points out the gravity of the situation in general and dwells on the unscrupulous behaviour of Great Britain in her endeavours to extend her influence throughout the country and blames her in no small degree for the recent troubles.

Some allusions are then made to the attitudes adopted by other European Powers, and France is urged to pursue a firm policy in order to resuscitate her waning influence which should, so the writer asserts, be absolutely paramount.

In conclusion France is warned against the difficulties likely to arise from concerted European action such as occurred in China in 1900.

A paper dealing with the recent disturbances in Venezuela is also of interest.

The article on Madagascar is one of the most interesting chapters taken from M. Brunet's treatise on that island. It describes General Gallieni's division of the country into military districts and sub-districts; it mentions the formation of local militia; it specifies the military and administrative duties entrusted to the officers in command of districts; it upholds the action of the Governor-General and seeks to justify his financial policy. The writer maintains that Madagascar is practically pacified and recommends the diminution of the forces of occupation. He quotes General Gallieni's opinions in favour of encouraging the co-operation of the best native element in the government of the island and finally urges the gradual abolition of the strictly military régime and the substitution of a more liberal civil administration.

Under the heading of "Political Information" are short articles on the Franco-Siamese Treaty and the two treaties recently concluded between Great Britain and Abyssinia and Great Britain, Italy and Abyssinia.

A short note on the Macedonian question is the last article of general interest. The editor promises to deal at length with this problem in one of his next publications.

Revue de Cavalerie—October 1902.

Le Projet Rolland et la Cavalerie—This is a lengthy paper but one not without interest to anybody wishing to make a more careful study of the laws and regulations governing conscription, military service, etc., in France and of their effect upon the French army of to-day.

Reconnaissance of troops of all arms by cavalry patrols.—This paper is the first of a series dealing with the training of cavalry patrols for reconnaissance work. It is written principally for the edification of non-commissioned officers, and contains many useful hints as to the organization and the formations, etc., of other arms, a certain knowledge of which the writer deems to be indispensable to a good patrol leader.

The difficulty of actually obtaining useful and reliable information in the presence of an alert enemy armed with modern rifles, seems, however, to be much under-estimated.

An account of the long distance ride from Brussels to Ostend and a few notes on various topics conclude this month's "Revue."

November 1902. The Evolution of Modern Cavalry.—"Some new ideas dealing with the effect of fire on cavalry tactics.

This is a most interesting essay touching a very large number of points in connection with the employment of cavalry in a war between European Powers. Our experiences during the war in South Africa are taken into account, and the writer warns emphatically against the danger likely to arise from hasty, ill-considered deductions drawn from a war carried on in such abnormal circumstances. The questions of mounted infantry and the arming of cavalry are discussed, as well as the value of shock-tactics even under modern conditions. The whole article is well worth perusal.

Reconnaissance by means of cavalry patrols.—This is the continuation of the treatise begun in the October issue of the *Revue de Cavalerie*.

It enters into numerous details regarding the duties of patrols acting against infantry in bivouac, on the march, etc., etc.

Must we abandon Napoleonic tactics?—An article discussing the tactics of all arms as affected by our recent experiences in South Africa.

A detailed description of light material to be used by cavalry for the passage of rivers and ravines as well as for purposes of disembarkation. (Illustrated and accompanied by a regular form of "drill," etc.)

Two short paragraphs on changes in organization and distribution of the French troops in the Congo State and of two regiments of Cossacks in the Caucasus are the last articles of any interest in the November number of the *Revue*.

Revue du Cercle Militaire—November 8th 1902.

This number contains the conclusion of a paper on the use of machine-guns in the German army and a description of the recent

combined naval and military manœuvres in Austria is begun. These manœuvres took place between Trieste and Pola. They were principally intended to impart instruction in the embarkation and disembarkation of troops.

November 15th.—Contains the medical statistics of the French (home and colonial) army for the year 1900 and a description of the Swiss manœuvres of 1902.

The account of the Austrian naval and military manœuvres is concluded.

Under the heading of "Notes about books" two volumes on the administration, etc., of the French army (by General Delaperrière) are highly spoken of.

November 22nd.—The solution of a tactical scheme set in the 25th October number of the "Revue" is given and a new scheme is set.

The account of the Swiss manœuvres is continued.

November 29th.—The Swiss manœuvres—conclusion.

A brief account of the assault of Kars, in 1877, may be of interest to some readers.

December 6th.—Notes and impressions of the manœuvres near Toulouse, 1902. In "Notes about books," "The coast defences of France" and "Tactics" are favourably criticised. Both works are by German authors and translations of them do not appear to have been published as yet.

December 13th.—Financial preparation for war. Notes and impressions of the manœuvres near Toulouse, 1902 (conclusion).

No other articles of particular interest in this week's edition.

December 20th.—The solution of the tactical scheme set in the edition of November 22nd is given and a new scheme is set for solution.

Financial preparation for war (continued). Some statements are made with reference to the preparedness for war of Great Britain and her food-supply in the event of war; Captain Murray's paper (Royal United Service Institution of June 1901) on this subject is alluded to.

December 27th.—Financial preparation for war—continued. A book entitled "In the Transvaal and South Africa with the military attachés" (by Raoul Duval) is reviewed.

January 3rd, 1903.—This number contains a second solution of the tactical scheme set in the issue of November 22nd. Also "Financial preparation for war" (conclusion).

January 10th.—The new organization of the Belgian army. A short note on territorial organization in Southern Algeria.

January 17th.—Solution of the fourth tactical scheme. The new distribution of (French) cavalry divisions and brigades.

Two interesting books are reviewed :—Tactical lessons of the Boer war, by General Boguslawski (German army) and "The organisation of quick-firing field artillery."

This latter publication, giving, as it does, some continental views on the employment and organization of heavy guns and machine-guns in the field, ought to be of especial interest at the present time.

The Revue de Géographie.—January 1903, contains :—

- (1) The first of a series of articles on German interests in America, so far, however, only commercial interests and economic questions are dealt with.
- (2) The conclusion of a number of papers on the Balkan question "The interests of the Great Powers in the Ottoman Empire."
- (3) Descriptions of Bankok and Vera Cruz.
- (4) A number of notes on explorations, the delimitation of the Anglo-French Niger-Tchad Boundary, etc., etc.

RUSSIA.

Voennyi, Sbornik.—(Contents).

PART I.

October 1902.—I. Her Imperial Majesty Alexandra Feodorovna's Guard-lancer regiment at the battle of Telish, 16th-28th October 1877.

II. The operations of the advance detachment in the war of 1877 (continuation).

III. The general staff tracing the development of the Russian general staff from 1613 to 1725 (continuation).

IV. Sketches of the condition and training of the French infantry.

V. Contemporary riding, racing and training.

VI. Tactics of field artillery.

VII. Fortress manœuvres in the neighbourhood of the Ust-Ijorsk camp, August 1902.

VIII. Army doctors.

IX. Courses in Eastern languages for officers, in the Asiatic department of the Foreign Office.

X. The war of 1877-78, in correspondence and novels.

XI. Former Russian wars. Correspondence of General Vrevski with Prince Dolgoruki, Sevastopol, 1855.

PART II.

1. The seven years' war.

2. Russian military review.

3. Foreign military review. German preparations for war, from a financial point of view.

Condition and training of the French infantry.—This is a continuation of a former article; the article deals mainly with company training; considerable attention seems to be paid to night marching, but not to night fighting. The battalion training is practically only carried away from the square, and consists in working out some scheme of attack or defence; in these exercises great attention is paid to the service of security.

Tactics of field artillery.—The author deprecates the massing of guns, because it is very difficult to change position; many of the batteries cannot fire at the point selected by the commander owing to accidents of ground; observation of fire is rendered more difficult as it is impossible to tell from which gun or battery the bursts observed come; control of fire is more difficult as batteries are jammed close together; confusion often results from units being mixed; oblique fire is impossible; all guns have to cease fire when the infantry approach the hostile position.

He advocates a dispersion of guns, dotting the artillery all over the front, separation going as far as posting batteries singly, but would concentrate fire: he claims the following advantages for dispersion, oblique fire is possible, change of position is easier, observation is not rendered difficult, all guns can fire, the attacking infantry will only cause a portion of the artillery to cease fire, and the hostile artillery must spread its fire instead of concentrating it on one spot during the artillery duel.

Courses in Eastern languages for officers.—These courses began with a great flourish of trumpets and there were many candidates, but they gradually fell off owing to the non-employment of passed graduates in proper billets, they being only given small badly paid appointments in the local administrations in the Caucasus, Trans-Caspia and Turkistan.

The courses are now dying out, and will completely cease unless suitable and properly paid appointments are given to graduates.

NOVEMBER 1902, PART I.

The storming of Kars on the night 5th-6th November 1877.

The fall of Plevna, 28th November 1877.

The operations of the cavalry of the advanced detachment in 1877.

The general staff.

Sketches of the training and condition of the French infantry.

On shoeing and farriers in the cavalry.

Detachments of orderlies in the artillery.

The present resources of field fortification.

The Kieff mutual aid Society.

The war of 1877-78, in correspondence and novels. Paul Andreevitch Fedotoff.

Former Russian wars. Correspondence of General Vrevski with Prince Dolgoruki, Sevastopol, 1855.

PART II.

Report on the 44th award of Count Uvaroff's prize.

Russian military review.

Foreign military review; measures to be taken to avoid the serious consequences of the shortening of period of military service in Western Europe.

The article on French infantry merely gives an account of a field day which took place at the end of the so-called winter training, during the time allotted to garrison manœuvres.

On shoeing and farriers. In this article the author advocates a very considerable reduction of shoeing and considers many diseases of the foot are the result of bad shoeing; he quotes numerous authorities; the general result of his observations is that no horses need be shod behind, and that most troop horses might go for many months unshod, which would vastly improve the state of their feet. He would like to see more expert farriers in the army, and advocates an improvement of their pay and status to attain this end.

The present resources of field fortification. Modern guns and rifles require a much greater thickness of earth to give protection against their projectiles. The author notes the general disinclination of troops to use the spade, and attributes it to the complexity

of profiles, traces, etc., and demands that all such details should be simplified. He points out the comparative uselessness of the intrenching implement, and the want of proper tools, which under present regulations are carried in tool carts, which invariably are not at hand when most wanted, and even if available, are far too few. He recommends the adoption of the Kiseleff spade, which has a long handle and is easier carried than the intrenching tool; he thinks the troops should carry many more tools than at present and would like to see each infantry soldier carry one proper entrenching tool.

DECEMBER 1902, PART I.

The passage of the Balkans by General Gourko's detachment.

The war of 1854-58 in the Gulf of Finland (continuation).

The general staff (continuation).

Sketches of the condition and training of the French infantry (continuation).

Riding to hounds at the cavalry officers' school in 1902.

The question of the proper employment of new quick-firing field guns.

Flying bridges on floating supports.

The war of 1877-78 in correspondence and novels.

Semesia.

Former Russian wars.

PART II.

The seven years' war (German general staff official account).

Russian military review.

Foreign military review (new regulations for Austrian military instructional institutes).

Sketches of the training of the French infantry, gives in detail an account of a field day in the neighbourhood of Nice, which shows the nature of the work demanded from the French Alpine troops.

Riding to hounds at the cavalry officers' school, gives a short account of the buildings, conveniences, etc., describes one or two runs, also the different point-to-point races. In conclusion he gives a few hints as to the proper system of training horses to jump.

The question of the proper employment of new quick-firing field guns. As all European powers have adopted quick-firing artillery it has become a burning question, as to what effect this will have on artillery tactics.

The Boer war, which was fought under peculiar circumstances cannot be taken as a guide, but we must try and work out tactics which will be possible in European warfare.

Germany has slightly altered her regulations, whilst France has more or less completely changed hers.

The first point noticed is that the number of rounds per gun must be increased; the French have increased theirs by 250 per cent.

Quick-firers should be used to bring a rapid fire on infantry, when passing certain fixed points, or when leaving cover; on cavalry moving in formed bodies within 3,000 yards of the position; and on artillery when coming into action.

The author does not believe in having so much artillery with the advance guard.

Artillery should have its own proper scouts to reconnoitre ground and position of enemy, so that all necessary arrangements may be made to open fire at once, otherwise the guns will be overwhelmed by the hostile artillery before they get the range. Shields and cover are advocated.

Guns to be employed in masses with no reserve, and must fire over heads of their own infantry. Mobility is strongly insisted on; the other points are those which have been universally accepted for some time back.

GERMANY.

Militär Wochenblatt.—No. 80, September 13th.

The principal contribution is a review on the essay dealing with the German infantry attack by a Bavarian officer who has been impressed by the combats in South Africa and has advocated more open formations.

His views are combated by the reviewer who holds that the regulations give ample scope to meet the changing phases of the fire fight of to-day, and who is dead against any further formalising of the formations for attack.

He lays stress on the importance of keeping the men in the hands of their officers as long as possible even at the cost of some loss.

The same number contains some notes on the Danish and the French army.

No. 82, 17th September—has also a paper on South African experiences in which the relation of numbers to quality of troops is discussed, General von der Goltz's paper on the subject to the *Deutsche Revue* being the text, from which it seems that distinguished authority reasserts his views of the "Nation in Arms" as justified by most recent events.

No. 83—has a paper on the abortive revolution in Berlin of March 1848 of no great interest.

Nos. 84 and 85—give a precis of our official text book combined training with but little comment. The German view, however, of "mounted" infantry is reasserted, namely, that cavalry to be worth maintaining should be able to do all that mounted infantry did in South Africa and do it better owing to better horsemanship, besides their own work, reconnoitring and so forth and training in mounted shock tactics.

No. 87—contains a paper of some interest on the stage of the Franco-German war which consisted in covering the armies engaged in the investment of the French fortresses from the attack of the relieving forces advancing from different points of the compass. The moral urged is that the best way of operating in such cases is boldly to seek the enemy out and force him to decisive action at any cost, even at the risk of lengthening lines of communication by advancing with small forces relatively into hostile country.

No. 88—has a readable paper on the experiences of the new instructions for infantry in attack.

The author is penetrated with the danger of abandoning the determined tactics which in the last wars gained such results for Germany, in spite of the greater destruction of small bullets propelled with smokeless ammunition.

He rather pertinently points out that the present Franco-German frontier being about 150 kilometres in breadth and traversed by only 15 main routes, the twenty or twenty-five army corps deployed along it in the first and critical period of the war would have neither the space nor the time to dodge one another with wide turning movements and great extensions. They would have to fight it out where they come upon the enemy and make the best of the ground: while victory would probably rest with the most determined and self sacrificing troops.

Die Armee, 10th October 1902.—has a good paper on Fire-direction in the infantry fight: it lays stress on the training required for mutual support of scattered units to produce combined action.

Die Armee of 17th October.—Its principal paper discusses the changes proposed in the Training of German Infantry. This paper is worth reading for those who wish to follow the trend of military opinion in Germany regarding infantry tactics in decisive warfare. In the main conservative, it concedes the necessity for change under certain circumstances. The uselessness of mounted infantry in decisive war is again pointed out, though its convenience for punitive expeditions against less formidable enemies, where cavalry is not available such as the Boxer campaign in China, is admitted.

Militär Wochenblatt.—The whole of the 11th and 12th supplement is given up to a sketch biography of General Carl von Schmidt who

distinguished himself as a cavalry leader in 1870 and in the subsequent training of the Prussian cavalry. The paper is of interest to those who know the history of the war of 1870 well and are keen about the records of the German cavalry and its military development in the last 40 years.

No. 95 of 29th October—describes this year's Kaiser manœuvres. The new Field Artillery drill of our Army is described rather than criticised and there is a historical paper dealing with the campaign of 1813. Our Imperial Yeomanry comes up for discussion, and astonishment is expressed that a people so practical as the British, in spite of every lesson, have not learnt that the soldier's profession has to be learnt by study like any other, and that good troops, especially good mounted troops and their leaders, cannot be improvised.

Die Armee, October 24th, 1902—has a paper by General V. den Bosch on the question of altering the German drill book so far as it deals with the attack of infantry.

The paper will be of interest to those who study the opinion of German military writers on recent developments of infantry fighting formations. The editions of November 21st and 28th have criticisms by a Russian officer on German military training, which are complimentary rather than otherwise.

The supplement of the *Militar Wochenblatt* dated 10th of October 1902 has a noticeable paper on the use of heavy artillery in attacking a fortified field position. Colenso is the instance quoted, and a careful study of the use of heavy guns in this action is given with sketches. The author is an officer of the heavy artillery of the Prussian Guard. It will be remembered that so far back as 1893 the Germans had concentrated at the principal places of arms on the French and Russian frontiers a considerable strength of heavy artillery horsed and equipped for field work. They claim therefore with reason to have been ahead of our South African experiences in the use of this arm.

In the first supplement of 1903 a historical sketch is given of the enterprises against the French fortresses of Yorck's Corps in 1814, with a comparison of the same enterprises in 1870. Throughout the numbers of this periodical are to be found papers on military history of varying interest: some of these papers are worth studying from a tactical student's view as giving a vivid or a trustworthy account of the events of some fight in 1866 or 1870; and as showing the continuity and development of military thought and science in modern Germany. The number of 5th November has a résumé of the work of the French army in 1902 which is of interest as showing at a glance the scheme of preparation which our neighbours find necessary for their large army.

The same number has a paper quoting some of Moltke's correspondence in 1866 about the contemplated war with Austria. No. 99, 12th November, continues the sketch of French exercises for 1902. No. 106, 3rd December, discusses the Swiss manœuvres of 1902 and has a paper on the English officer. The excellent quality of the latter as

raw material is admitted, and wonder is expressed that better use is not made of him by a rational system of training.

No. 109 of 13th December—has a critical description of our infantry assault on the Paardeberg position on 18th February 1900. The want of cohesion in the attacks, which took place piecemeal, the attempt to storm the position before a fire-superiority had been obtained and the weakness of the assaulting detachments are pointed out as causes of failure.

The number of 17th December continues the subject and points out the disadvantages our infantry suffered in having to change the forms of their fighting dispositions in the crises of the campaign, as the Germans had to some extent in 1870, and the Russians in 1877.

A new work on strategy by Verdy du Vernois is reviewed and the importance of sound strategical theories permeating the leaders and staff of the army pointed out.

Clausewitz helped his country to no small extent in the great struggles of 1866 and 1870 long after his death.

Enno Sander Prize.

1902-1903.

The Essayist securing First Place will receive a Gold Medal, of the value of one hundred dollars.

The Essayist securing First Honorable Mention will receive a Life Membership in the Association, of the value of Fifty Dollars.

SUBJECT FOR 1902-1903.

THE DIFFERENTIAL DIAGNOSIS OF TYPHOID FEVER IN ITS EARLIEST STAGES.

CONDITIONS OF THE COMPETITION.

1. Competition is open to all persons eligible to active or associate membership in the Association of Military Surgeons of the United States.

2. The prize will be awarded upon the recommendation of a Board of Award selected by the Executive Committee. The Board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit for honorable mention, the author of the first of which shall receive a life membership in the Association.

3. In fixing the precedence of the essays submitted, the Board will take into consideration—primarily—originality, comprehensiveness and the practicality and utility of the opinions advanced, and—secondarily—literary character.

4. Essays will consist of not less than ten thousand, nor more than twenty thousand words, exclusive of tables.

5. Each competitor will send three typewritten copies of his essay in a sealed envelope to the Secretary of the Association, so as to reach that officer at least one month before the next ensuing annual meeting.

6. The essay shall contain nothing to indicate the identity of the author. Each one however will be authenticated by a nom de plume, a copy of which shall, at the same time as the essay, be transmitted to the Secretary in a sealed envelope together with the author's name, rank and address.

7. The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the Association, and the prize thereupon awarded.

8. The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications.

BOARD OF AWARD—1902-1903.

Brigadier-General AUSTIN FLINT, New York.

Colonel CALVIN DE WITT, U. S. Army.

Lieutenant-Colonel VICTOR C. VAUGHAN, U. S. Vols.

Robert Allen Blood, President. James Evelyn Pilcher, Secretary,
Carlisle, Pennsylvania.

Officers of the Indian Medical Service are eligible.

UNITED SERVICE INSTITUTION OF INDIA.

List of Essays received for the Gold Medal Competition, 1903.

No.	Motto.
1	Wheels within Wheels.
2	Qui non proficit, deficit.
3	Knowledge is power, I.
4	Nihil sine Labore.
5	Aes Triplex.
6	En Avant.
7	Quo fas et gloria ducunt.
8	Fools rush in.
9	Pluribus Assuesce Mentem.
10	Do well doubt not.
11	Fas est et ab Hoste Doceri.
12	Initium est salutis notitia peccati.
13	Video Meliora Proboque.
14	Si qua meis fuerint, ut erunt, vitiosa libellis, Excusata, suo tempore lector habe.
15	Je vis en espoir.
16	Para bellum in pace.
17	Cui decus Imperii, Mens sana in corpore sano.
18	Knowledge is power, II.
19	Labor Omnia vincit.
20	Fiat Lux.
21	Sic vos non vobis.

Prize Essay Gold Medallists.

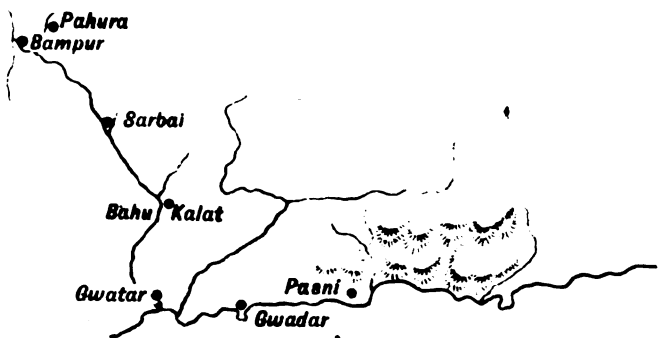
- 1872.....ROBERTS, Lieut.-Col. F. S., V.C., C.B., R.A.
 1873.....COLQUHOUN, Capt. J. A. S., R.A.
 1874.....COLQUHOUN, Capt. J. A. S., R.A.
 1879.....ST. JOHN, Maj. O. B. C., R.E.
 1880.....BARROW, Lieut. E. G., 7th Bengal Infantry.
 1882.....MASON, Lieut. A. H., R.E.
 1883.....COLLEN, Maj. E. H. H., S.C.
 1884.....BARROW, Capt. E. G., 7th Bengal Infantry.
 1887.....YATE, Lieut. A. C., 27th Baluch Infantry.
 1888.....MAUDE, Capt. F. N., R.E.
 YOUNG, Maj. G. F., 24th P. I. (specially awarded a silver medal).
 1889.....DUFF, Capt. B., 9th Bengal Infantry.
 1890.....MAGUIRE, Capt. C. M., 2nd Cav., Hyderabad Contingent.
 1891.....CARDEW, Lieut. F. G., 10th Bengal Lancers.
 1893.....BULLOCK, Maj. G. M., Devonshire Regt.
 1894.....CARTER, Capt. F. C., Northumberland Fusiliers.
 1895.....NEVILLE, Lieut.-Col. J. P. C., 14th Bengal Lancers.
 1896.....BINGLEY, Capt. A. H., 7th Bengal Infantry.
 1897.....NAPIER, Capt. G. S. F., Oxfordshire L. I.
 1898.....MULLALY, Maj. H., R.E.
 CLAY, Capt. C. H., 43rd Gurkha Rifles (specially awarded a silver medal).
 1899.....NEVILLE, Col. J. P. C., S.C.
 1900.....THUILLIER, Capt. H. F., R.E.
 LUBBOCK, Capt. G., R.E. (specially awarded a silver medal).
 1901.....RANKEN, Lieut.-Col. G. P., 46th Punjab Infantry.
 1902.....TURNER, Capt. H. H. F., 2nd Bengal Lancers.

MacGregor Memorial Silver Medallists.

- 1889.....BELL, Col. M. S., V.C., R.E. (specially awarded a gold medal).
- 1890YOUNGHUSBAND, Capt. F. E., K. Dn. Gds.
- 1891.....SAWYER, Maj. H. A., 45th Sikhs.
 RAMZAN KHAN, Havildar, 3rd Sikhs.
- 1892.....VAUGHAN, Capt. H. B., 7th Bengal Infantry.
 JAGGAT SINGH, Havildar, 19th P. I.
- 1893.....BOWER, Capt. H., 17th Bengal Cavalry (specially awarded
 a gold medal).
 FAZALDAD KHAN, Dafadar, 17th B. C.
- 1894.....O'SULLIVAN, Maj. G. H. W., R.E.
 MULL SINGH, Sowar, 6th B. C.
- 1895.....DAVIES, Capt. H. R., Oxfordshire L. I.
 GUNGA DYAL SINGH, Havildar, 2nd Rajputs.
- 1896.....COCKERILL, Lieut. G. K., 28th Punjab Infantry.
 GHULAM NABI, Private, Q. O. Corps of Guides.
- 1897.....SWAYNE, Capt. E. J. E., 16th Rajput Infantry.
 SHAHZAD MIR, Dafadar, 11th B. L.
- 1898.....WALKER, Capt. H. B., Duke of Cornwall's L. I.
 ADAM KHAN, Havildar, Guides Infantry.
- 1899.....DOUGLAS, Capt. J. A., 2nd B. L.
 MIHR DIN, Naik, Bengal S. and M.
- 1900.....WINGATE, Capt. A. W. S., 14th B. L.
 GURDIT SINGH, Havildar, 45th Sikhs.
- 1901.....BURTON, Major E. B., 17th B. L.
 SUNDER SINGH, Colr. Havildar, 31st Burma Infantry.
- 1902.....RAY, CAPTAIN M., R.E., 7th Rajput Infantry.
 TILBIR BHANDARI, HAVILDAR, 9th Gurkha Rifles.

**MAP OF
NORTH WESTERN INDIA
TO ILLUSTRATE THE INVASION
INDIA
FROM THE EARLIEST TIME**

B A L U



A R A B I A N S E A

The Journal

OF THE

Service Institution of India.

P OF
III.
JULY 1903.
No. 152.

THE INVASION
OF INDIA

INVASIONS OF INDIA.*

EARLIEST TIP R. G. BURTON, SECRETARY, UNITED SERVICE INSTITUTION OF INDIA.

B A L
 matter of common knowledge that India has frequently been invaded. History repeats itself, and what has happened not once only times may happen again, as Thucydides well understood dedicated his history of the Peloponnesian War "to those who wish to have a true view of what has happened, and of the like things which, in accordance with human nature, will hereafter happen." Many scoff at the idea of invasion, and India is impregnable; a prominent member of the Opposition declared in the House of Commons that "the North-western frontier of India is a bug-bear." I do not propose to discuss this question here, but merely to draw on the history of the past. The invasions, natural and artificial, have not hitherto kept out invading armies, and all obstacles can be overcome by genius and perseverance. Mahmud Ghori and Nadir Shah both entered India with 120,000 men. In the latter, it is significant to note, after overcoming the opposition of the frontier tribes by the distribution of subsidies. It is said that Mahmud of Ghazni invaded the Gangetic plain after crossing the passes of Tibet. Napoleon saw the possibility of invading India. Indeed, he looked upon his expeditions to Egypt and Russia as stepping stones towards that object. Following in the footsteps of Alexander the Great Macedonian, he would plant the new pillars of Hercules on the banks of the Hyphasis. His visions of Oriental Empire waxed faint as he approached the walls of Acre, and were finally quenched in the snows of the Caucasus. But who shall say that a new Alexander may not yet arise?

*Note.—Since this article was completed on April 1st, I have seen a translation from Russian of General Soboleff on the same subject, commenced in the March issue of the Journal of the Royal United Service Institution.

MAP OF
NORTH WESTERN

TO ILLUSTRATE THE INVASION

FROM THE EARLIEST TIME

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The Journal

OF THE

United Service Institution of India.

[VOL. XXXII.

JULY 1903.

No. 152.

SION

INVASIONS OF INDIA.*

TII

BY MAJOR R. G. BURTON, SECRETARY, UNITED SERVICE INSTITUTION OF INDIA.

It is a matter of common knowledge that India has frequently been invaded. History repeats itself, and what has happened not once only but many times may happen again, as Thucydides well understood when he dedicated his history of the Peloponnesian War "to those who desire to have a true view of what has happened, and of the like or similar things which, in accordance with human nature, will probably thereafter happen." Many scoff at the idea of invasion, and hold that India is impregnable; a prominent member of the Opposition recently declared in the House of Commons that "the North-West Frontier of India is a bug-bear." I do not propose to discuss this question here, but merely to draw on the history of the past. Obstacles, natural and artificial, have not hitherto kept out invading hordes, and all obstacles can be overcome by genius and perseverance. Muhammad Ghor and Nadir Shah both entered India with 120,000 horse, the latter, it is significant to note, after overcoming the opposition of the frontier tribes by the distribution of subsidies. It is said that Mahmud of Ghazni invaded the Gangetic plain after crossing the snowy passes of Tibet. Napoleon saw the possibility of invading India. Indeed, he looked upon his expeditions to Egypt and Russia as stepping stones towards that object. Following in the footsteps of the great Macedonian, he would plant the new pillars of Hercules on the banks of the Hyphasis. His visions of Oriental Empire waxed faint before the walls of Acre, and were finally quenched in the snows of Russia. But who shall say that a new Alexander may not yet arise

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to march across Asia to the conquest of the Golden Orient? It behoves us to be prepared for all possibilities, and to have some knowledge of past history, for it is only by a study of the happenings of the past that the mind can be fitly furnished for the conduct of great enterprises, and for a clear consideration of the requirements of war and politics. Napoleon, turning for examples to Hannibal and Cæsar, recognised that we have much to learn from ancient history. In 1808, when contemplating an invasion of Asia and the conquest of India, he wrote to his librarian:—

“The Emperor would wish M. Barbier to occupy himself, in conjunction with one of our best geographers, with the task of collecting memoirs about the campaigns which have taken place on the Euphrates and against the Parthians, beginning with that of Crassus up to the 8th century, and including those of Antonius, Trajan, Julian, etc.; he is to mark on maps of suitable size the route which each army followed, together with the ancient and modern names of the countries and principal towns, and add notes on the geographical features and historical descriptions of each enterprise taking these from the original authors.”

In considering the various recorded invasions of India, it must be borne in mind that the boundary of this country did not always lie along the great mountain barrier which indicates the present North-West Frontier of British India. Thus the kingdom of Taxiles at the time of Alexander's invasion appears to have extended from Kabul to the Jhelum—the ancient Hydaspes.

In addition to the expedition of Alexander of Macedon, the following invasions of India from Central Asia are recorded in history:—

662 A. D.

Harab-al-Abdi invaded Sind, where he was defeated and slain with all his followers.

712 A. D.

Muhammad Kasim having conquered Sistan invaded India from Makran.

977 A. D.

Sabaktagin, King of Ghazni entered India by way of Peshawar.

Mahmud of Ghazni descended the valley of the Kabul river with 10,000 horse, advanced through Peshawar and returned by a more southerly route. He made many invasions. In 1005 he advanced from Ghazni by the Tochi valley through Bannu and attacked Mooltan, having crossed the Indus near Isa Khel. In 1023 he advanced as far as Gwalior, which he captured, and in 1024 he came by the Gomul route, returning through Sind after having sacked Somnath.

1031 A. D.

Mahsud advanced through Kashmir to Hansi and Lahore.

Muhammad Ghori invaded India by way of Peshawar. He

1179 A. D.

returned again in 1191, traversing with one column the defiles of the Suliman range by the Gomal or the Sanghur pass, whilst another column under Ildoz, having advanced from Kurram over the Shutur Gardan, captured Ghazni, and kept open the route from the Indus to that place by the Kurram pass.

Again in 1193 he entered India through the Peshawar valley with 120,000 horse, an exploit repeated in the two succeeding years, including the capture of Guzerat.

Taimur crossed the Hindu Kush to Kabul by the Shibr pass at

1398.

the western end of the Ghurband valley.

Leaving Kabul in August, he marched through the Kurram to Bannu, and crossed the Indus at Dinkot by a bridge made of rafts and reeds. Meanwhile another column of his army, under Pir Muhammad who had been fighting among the Suliman mountains, crossed the Indus and captured Mooltan. Taimur returned by Meerut and Jammu, whence he turned back and reached Kabul by the Kurram valley.

Babar, having the previous year crossed the Hindu Kush by the

1505.

Kipchak Pass, and entered Kabul, advanced in January through the Khyber

to Peshawar, marching thence by Kohat, Hangu, Thal and Bannu, to the Gomal river; then south along the Indus towards Mooltan from whence he proceeded by way of Chotiali to Ghazni and Kabul, where he arrived in May. In 1519 he came again through Bajaur and Swat, crossing the Indus at Nilab, and returned by Ali Masjid. In 1525 he again descended upon India, his army coming down the Khyber, whilst he himself travelled down the Kabul river on a raft.

Humayun, driven out of India, retired across the Indus above

1555.

Mooltan through Quetta. He returned in 1555, advancing through the Khyber

with 15,000 horse.

1738.

Nadir Shah came through the Bazar valley, and invaded India with 120,000 men.

Ahmad Khan entered by way of the Khyber with 12,000 men.

1748.

He came again in 1756 and 1758, advancing by the Bolan on both occasions.

It will thus be seen that India has been invaded on numerous occasions, generally through the Khyber, but also by other routes such as the Bolan, Kurram and Gomal passes and by way of Swat.

I.—ALEXANDER'S INVASION.

"The East bowed low before the blast
 In patient deep disdain;
 She let the legions thunder past,
 And plunged in thought again."

In the spring of the year 334 B. C., Alexander of Macedon, bent on the conquest of the Persian Empire, crossed the Hellespont at the head of an army thus described by Bishop Thirlwall in his *History of Greece* :—

"The main body, the phalanx—or quadruple phalanx, as it was sometimes called, to mark that it was formed of four divisions each bearing the same name—presented a mass of 18,000 men, which was distributed, at least by Alexander, into six brigades of 3,000 each, formidable in its aspect and, on ground suited to its operations, irresistible in its attacks. The phalangite soldier wore the usual defensive armour of the Greek heavy infantry—helmet, breast-plate, and greaves; and almost the whole front of his person was covered with the long shield called the *aspis*. His arms were a sword long enough to enable a man in the second rank to reach an enemy who had come to close quarters with the comrade who stood before him, and the celebrated spear, known by the Macedonian name *sarissa*, four-and-twenty feet long. The *sarissa*, when couched, projected 18 feet in front of the soldier, and the space between the ranks was such that those of the second rank were fifteen, those of the third twelve, those of the fourth nine, those of the fifth six, and those of the sixth three feet in advance of the first line, so that the man at the head of the file was guarded on each side by the points of six spears. The ordinary depth of the phalanx was of sixteen ranks. The men who stood too far behind to use their *sarissas*, and who therefore kept them raised until they advanced to fill a vacant space, still added to the pressure of the mass. As the efficacy of the phalanx depended on its compactness, and this again on the uniformity of its movements, the greatest care was taken to select the best soldiers for the foremost and hindmost ranks—the frames, as it were, of the engine. The bulk and core of the phalanx consisted of Macedonians; but it was composed in part of foreign troops. These were no doubt Greeks. But the northern Illyrians, Paeonians, Agrianians, and Thracians, who were skilled in the use of missiles, furnished bowmen, dartsmen, and slingers; probably according to the proportion which the master of tactics deemed the most eligible, about half the number of the phalanx. To these was added another class of infantry, peculiar in some respects to the Macedonian army, though the invention belonged to Iphicrates. They were called Hypaspists, because, like the phalangites, they carried the long shield, but their spears were shorter, their swords



ALEXANDER THE GREAT

From a coin

longer, their armour lighter. They were thus prepared for more rapid movements, and did not so much depend on the nature of the ground. They formed a corps of about 6,000 men. The cavalry was similarly distinguished into three classes by its arms, accoutrements, and mode of warfare. Its main strength consisted in 1,500 Macedonian and as many Thessalian horse. But the rider and his horse were cased in armour, and his weapons seem to have corresponded to those of the heavy infantry. The light cavalry, chiefly used for skirmishing and pursuit, and in part armed with the sarissa, was drawn from the Thracians and Paeonians, and was about a third of the number of the heavy horse. A smaller body of Greek cavalry probably stood in nearly the same relation to the other two divisions as the Hypaspists to the heavy and light infantry. To the Hypaspists belonged the royal foot bodyguard, the Agema, or royal escort, and the Argyraspides, so called from the silver ornaments with which their long shields were enriched. But the precise relations in which these bodies stood to each other does not appear very distinctly from the descriptions of the ancients. The royal horse guard was composed of eight Macedonian squadrons, filled with the sons of the best families. The numbers of each are not ascertained, but they seem in all not much to have exceeded or fallen short of a thousand."

It is interesting to note that Alexander had a kind of dragoons or mounted infantry known as *dimachai* who fought either on foot or on horseback according to circumstances; whilst in his campaign against the Aspasians he organised a body of mounted infantry, composed of 800 Macedonian foot soldiers on horseback.

Artillery was represented by catapults, which threw great stones to a distance of three or four hundred yards.

Those who wish to know what manner of man he was should read Plutarch's Life of Alexander, from which, however, I may quote the following description of him as he appeared in action at the battle of Arbela. "He had a short coat of Sicilian fashion girt close about him, and over that a breast-plate of linen, strongly quilted, which was found among the spoils at the battle of Issus. His helmet was of iron, but so well polished that it shone like the brightest silver. To this was fitted a gorget of the same metal, set with precious stones. His sword, the weapon he generally used in battle, could not be excelled for lightness or for temper. But the belt, which he wore in all engagements, was more superb than the rest of his armour. It was given him by the Rhodians as a mark of respect, and old Helicon had exerted all his art on it. In drawing up his army and giving orders, as well as exercising and reviewing it, he spared Bucephalus on account of his age, and rode another horse; but he constantly charged upon him; and he no sooner mounted him than the signal was always given."

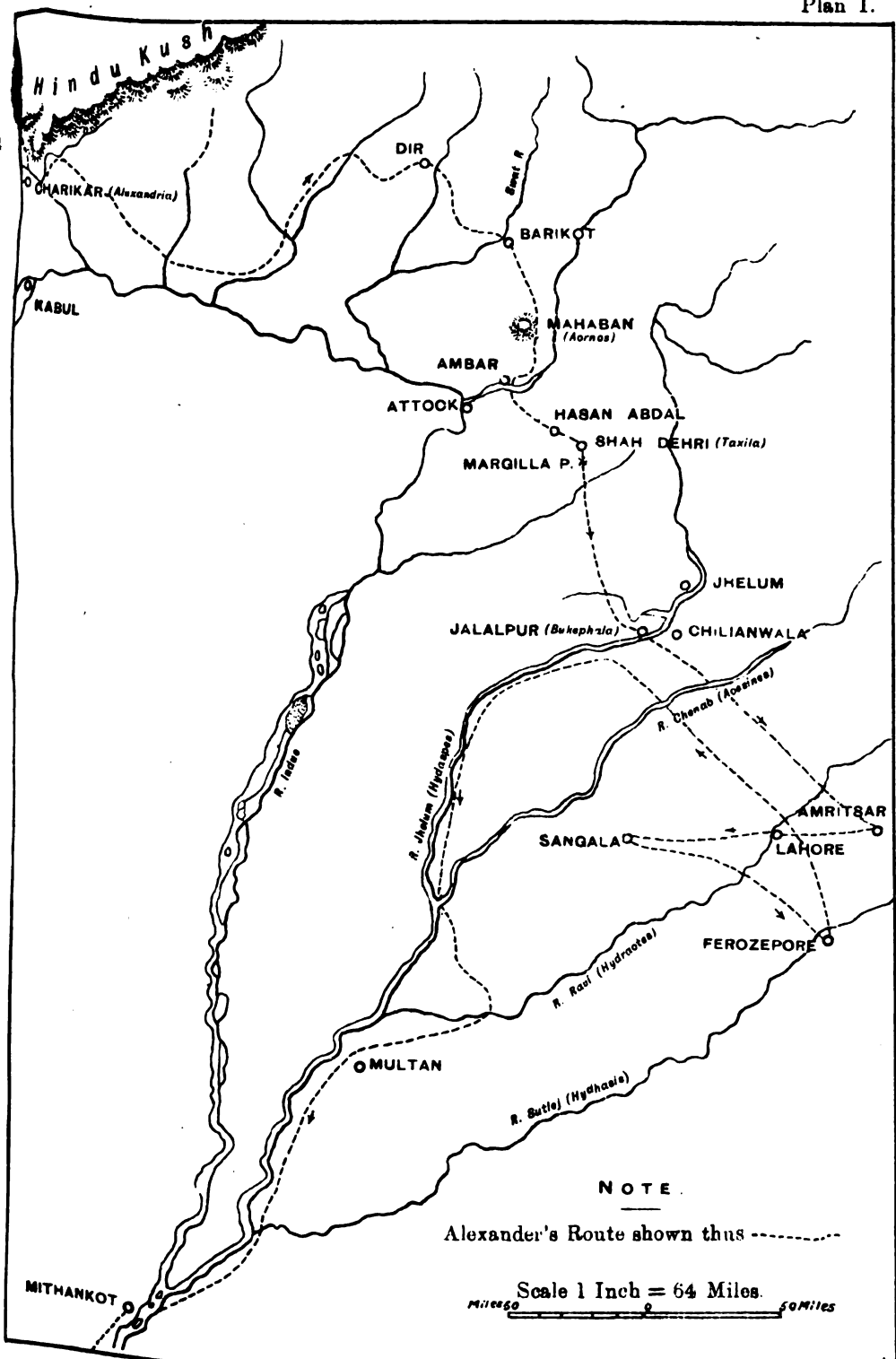
Like all great generals who have existed since his day, he was a student as well as a man of action, for Plutarch tells us that

he "loved polite learning, and his natural thirst for knowledge made him a man of extensive reading." He was a good sportsman and "constantly took the exercise of war or hunting, and exposed himself to danger and fatigue."

It was not until the year 327 B. C. that Alexander found himself at Balkh in a position to undertake the conquest of India. In the seven years that had intervened since the crossing of the Hellespont, he had conquered Persia, Asia Minor, and Egypt, and, subduing all the countries through which he had passed, had thus secured his line of communication with Macedonia, so that he could without difficulty draw on it for recruits and supplies. The victories of the Granicus, Issus, and Arbela had spread the terror of his name throughout Asia, and on arrival in the vicinity of Kabul he found Taxiles, king of the country between that place and the Jhelum ready to offer his allegiance. Halting for a time to found a new Alexandria where Chaiikar now stands to the north of Kabul, he advanced in the summer through the country north of the Kabul river valley whilst a portion of his force under Hephæstion entered India by way of the Khyber pass, accompanied by King Taxiles with instructions to prepare a bridge of boats for the passage of the Indus above the modern Attock,

It was Alexander's custom to observe the main great principle of strategy necessitating the security of his lines of communication and his flanks before making a further advance. He was probably by a consideration of this principle, induced to take the northerly and more difficult route into India by Kafiristan and Swat instead of marching down the Khyber Pass, and it was in pursuance of the same object that he crossed the Swat river to subdue the fierce mountain tribes which lay upon the flank of his advance, taking with him both cavalry, infantry, and mounted infantry, and organising a siege-train of catapults and battering rams.

Entering this rugged country which was inhabited by the Aspasi-
 Campaign against the Aspasi-
 ans, he pressed forward with a mobile force of cavalry and mounted infantry, leaving his main body to follow, and attacked and captured the first town he met with, destroying such of the inhabitants as were unable to escape to the hills, and razing the place to the ground. In this action Alexander was slightly wounded in the shoulder by a dart. Then he marched on the city of the Aspasian chief, which was abandoned and burnt by its inhabitants, many of whom were slain before they could escape to rough and difficult ground. Proceeding thence to a town which has been identified with Nawagai, he found that the Aspasi-
 ans had evacuated it also, and had assembled their forces on high ground overlooking the plain. Ordering one of his lieutenants to fortify the city, and peopling it with such of the natives as were willing to



settle there, and with those of his soldiers who were unfit for service,* he marched against the assembled Aspasians, whom he defeated, and followed up this victory by crossing the Panjkora river, intending to subdue the tribes in that direction. These, fearing to meet him in the open, took refuge within the walls of their cities, which they resolved to defend to the last.

The chief city of this country was Mazaga, which is supposed

Siege of Mazaga.

to have stood where a ruined site now exists some twenty-five miles from Nawagai. Against this city Alexander now advanced, and, by a feint at rearing, induced the enemy to attack him, whereupon he turned and defeated them with considerable slaughter, driving the remainder within the walls of their town and being again slightly wounded by an arrow during the action. Bringing up their battering train, the Macedonians breached the wall, but were repulsed by the determined action of the defenders. Next day a wooden tower, manned by archers, was brought up to the walls, but the assailants were still unable to force their way in; and they met with no better success in attempting to storm the place over a bridge, thrown from an engine over the breach, which broke beneath the weight of the attacking party. The defenders had a force of 7,000 Indian mercenaries who being disheartened by having their leader killed on the fourth day of the siege, came to terms under which they were to take service with Alexander, and left the city. But, hearing that these Indians intended to disperse to their homes during the night, the Macedonians surrounded them on a hill where they were encamped and cut them to pieces. The city was then taken by storm, as also were several other towns in this part of the country.

In the meantime those of the inhabitants who had fled had taken

Siege of Aornos.

refuge on the celebrated rock Aornos, which was reputed to be impregnable.

Rising precipitously from the bank of the Indus, which washes its rocky base, Aornos, now known as mount Mahaban, a spur of the Black Mountain, looks down on the Yusufzai plain, which lies 6,000 feet below. The summit of the mountain, which is clad with tall pine trees, consists of a plateau some five miles in extent, and it was here that the barbarians had taken refuge. Having established his main force at a city in the vicinity, probably opposite to the place where Darband now stands on the other bank of the Indus, Alexander took a picked body of troops, including his archers, his best infantry, 200 cavalry of his body-guard, and a hundred equestrian archers (mounted infantry again!) and pitched his camp at the fort of Aornos. Whilst he was reconnoitring to discover a means of attacking this stronghold, some inhabitants offered

* NOTE.—It has often been said that some of the inhabitants of the North-West are of Greek or Macedonian descent, which is very probable in view of this custom of Alexander's of peopling cities with men discharged from his army.

to show him a way by which the rock could be stormed and captured without much difficulty. With these guides he sent a lightly-armed force under command of Ptolemy, with orders to establish themselves in an intrenched position on the summit of the mountain, and to signal to him when this had been accomplished. This done, and signal being given by means of a torch, Alexander next morning moved forward with his whole army, but could make no progress owing to the difficult nature of the ground. Seeing this, the barbarians fiercely attacked Ptolemy's detachment, trying to destroy the palisades with which he had surrounded himself, but were beaten off by nightfall. That night Alexander succeeded in sending a message to Ptolemy, by a deserter, telling him that when he (Alexander) attacked next morning, the detachment was to co-operate by attacking the enemy on the other side, so that the barbarians might find themselves surrounded. Hard fighting ensued from daybreak to midday, when the two forces succeeded in effecting a junction, but further advance against the pinnacle of rock that crowned the summit of the mountain was found to be impossible. Next day at dawn Alexander ordered his men to cut down each a hundred poles or stakes from the wood at hand, which, being piled up from their intrenchment against the rock, formed a rampart from which their missiles could reach the enemy. Mounted on this rampart, the slingers and archers next day repelled all attempts by the enemy to attack the working party, who continued labouring for four days, in order to join the artificial mound to a hill, of equal height with the main rock, which had in the meantime been occupied by some Macedonians. Terrified and astonished at the boldness of their enemies, the barbarians now entered into negotiations, but Alexander saw through their design to escape by night to their homes under cover of these parleys, and, climbing up to the rock with seven hundred men, put many to the sword and captured others, whilst some fell headlong from the precipices in the panic of their flight.

This enterprise at an end, and a number of elephants that were in the vicinity being captured, Alexander moved down the Indus to the bridge of boats which had already been constructed by Hephæstion for the passage of the river above Attock. Up to this point the expedition had apparently lasted about twelve months from the march from Bactria (Balkh). Arrived at

The passage of the Indus. the Indus, Alexander found the bridge, constructed of boats with planks laid across them and anchored by stones, ready for the passage, so, crossing at daybreak he marched to Taxila, the capital of King Taxiles, a populous and wealthy city, supposed to have been situated between Hassan Abdal and Rawal Pindi, and about 25 miles to the north-west of the latter place. Here he held a gymkhana or assault-at-arms, as was customary on such occasions, and as he had done on crossing the Indus, and, leaving a garrison and his invalided soldiers, he moved towards the Hydaspes (Jhelum), on the further bank of which Porus, the

king of the country that lay beyond, had assembled a great army to oppose the passage.

Alexander, with his army reinforced by 5,000 Indians under

March to the Hydaspes.

Taxiles, marched towards the Hydaspes under cover of the ravines of the Salt range, and encamped at Jalalpur, some thirty miles below Jhelum. The boats from the Indus bridge had in the meantime been taken to pieces and carried down to the Hydaspes, where they were put together and launched. The river being swollen with the melted snow from the mountains where it takes its source, for it was the summer season, Alexander spread a report that he would remain encamped until the season when the floods should have passed away. Whilst with the same object of deceiving Porus, he moved detachments of his force, as well as his flotilla, up and down the river, making feints of crossing at different points, and obliging Porus with all his army to conform to these movements on the other bank of the stream.

Some seventeen miles to the north of Jalalpur, where the channel

Passage of the river.

takes a mighty sweep, a lofty rock stood upon the river bank, and opposite to it a wooded islet breasted the stream. It was at this point that Alexander determined to make the passage. Taking with him a portion of his force, both horse and foot, and leaving his main body in camp under Craterus with orders to cross over as soon as his attack was developed, he made a detour and reached the above mentioned rock unobserved. From there he crossed under cover of darkness to the island, utilising rafts supported by skins stuffed with straw for the passage, as well as some of the boats. In his orders to Craterus he said—"If Porus with one part of his army advances against me while he leaves the other part and his elephants in his camp, then remain where you are; but if he takes all his elephants against me, and leaves the rest of his army in camp, then hasten across the river with all your force, for the sight of the elephants alone makes the passage dangerous for horses."

Leaving the islands, the Macedonians made for the further bank, when they were perceived by the enemy's sentinels, who galloped off to camp with the information. A landing having been effected, Alexander found that he was on a large island, separated from the main land by a channel through which the torrent, swollen by the night rains, ran swift and turbid. With some difficulty a ford was discovered, the water coming up to the breasts of the infantry, and exposing only the heads of the horses. Arrived on the bank with 5,000 horse, including mounted archers, the Macedonian leader formed a line with his right flank resting on the river, his infantry following 6,000 strong.

It is interesting to note that the battle of the Hydaspes was

Battle of the Hydaspes.

fought on the ground where, two thousand years afterwards, our own

army, less skilfully disposed than that of Alexander, met the Sikhs at Chilianwala, where

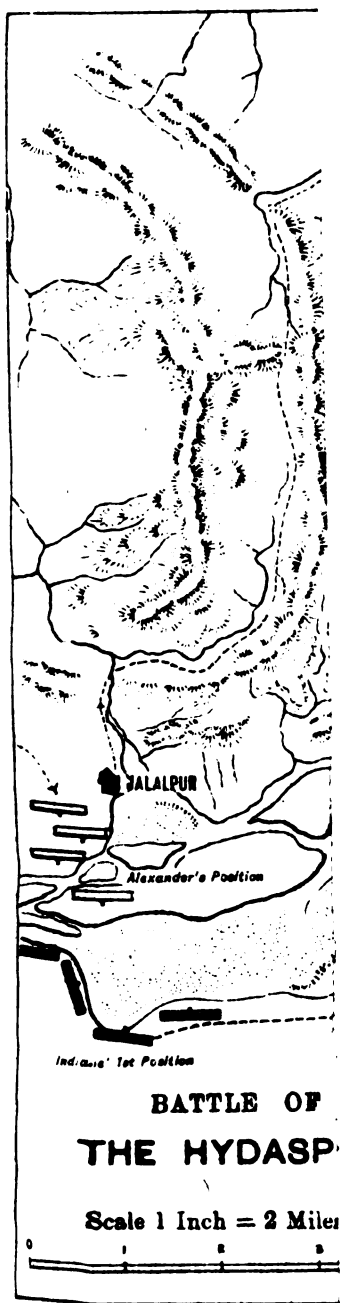
" Swords were crossed and bayonets fixed.

First where fought great Alexander."

Porus, hearing of the passage of the Macedonians, despatched his son to oppose their landing with 2,000 men and 120 chariots, but Alexander, charging these with his cavalry in squadrons, put them to flight, killing their leader and four hundred of their horsemen, and capturing all their chariots, which were rendered useless and unable to retreat by the nature of the clay soil. The fugitives from this action apprised Porus of the approach of the main army of the Macedonians under Alexander, whereupon he decided to march against him with all his forces, leaving in camp a few elephants and a small force to oppose the crossing of Craterus.

The army of Porus amounted to 4,000 cavalry, 300 chariots, 200 elephants, in addition to those left in camp, and 30,000 good infantry. These he disposed on ground suited to the movements of his cavalry placing his elephants in the front line at intervals of 100 feet, where they might cover the infantry who were posted behind them, and spread terror among the Macedonian horse. At the extremity of each wing were placed elephants bearing wooden towers containing armed men, whilst the cavalry, covered by the chariots in front, was drawn up on either flank.

Seeing the array of the hostile troops, Alexander halted to permit his infantry to come up, and allowed them to rest while he rode round the ranks. He now advanced with the main body of his cavalry against the enemy's left, detaching a force under Cœnus to the right to attack the hostile rear when opportunity offered. The infantry were ordered not to take part in the battle until the enemy had been thrown into confusion by the cavalry attack. Thus threatened in both front and rear by the Macedonian horse, the Indians were thrown into some confusion in endeavouring to face both ways, and their left wing, assailed by mounted archers and charged by Alexander at the head of his cavalry, took shelter in rear of the elephants, whose drivers urged their animals against the advancing horsemen. But the Macedonian phalanx now came up and attacked the elephants which, charging the infantry, created great confusion, thus described by Arrian—"The Macedonian phalanx galled not only the beasts but their riders with their arrows; and this was a manner of fighting quite new to the Macedonians; for whichever way the elephants turned, the ranks of foot however firm, were forced to give way. The Indian horse, now seeing their infantry in the heat of the action, rallied again and attacked Alexander's cavalry a second time, but were again forced back among the elephants with loss. And now all Alexander's horse being formed into one mass made dreadful havoc among the Indians wherever they fell upon



them. And the elephants being now pent up in a limited space, and violently enraged, did no less mischief to their own men than to the enemy, and as they moved about, multitudes were trampled to death; besides, the horse being cooped up among the elephants a tremendous slaughter ensued, for many of the drivers being slain by the archers, the elephants were no longer under control, but in their frenzy trampled under foot and slew friends and foes alike. But the Macedonians, having more space, gave way when the elephants advanced, following them up and attacking them when they retreated, until at length, trumpeting loudly, they passed out of the battle. Alexander, having surrounded all the enemy's cavalry, made a signal for the infantry to close their shields together, and advance in a mass so that nearly all Indian cavalry were slain. Nor did their infantry fare much better; for the Macedonians pressing them on all sides, destroyed all who were unable to escape through the horse that surrounded them."

In the meantime Craterus crossed the river, and flinging his fresh troops upon the discomfited Indians, took up the pursuit and slaughtered great numbers. The Macedonian loss is variously estimated at from 300 to 1,000, whilst the Indians are said to have lost over 20,000 killed; all their chariots were destroyed, and their surviving elephants were captured. Porus having surrendered after the battle, Alexander appointed him Governor of his own country with some territorial additions. He founded two cities called Nikaia, which was on the battlefield, and Bucephala, probably at Jalalpur, called after his famous horse, which was mortally wounded in this contest.

Having rested his troops for a time, Alexander crossed the Chenab and Ravi rivers marching probably as far as Amritsar, but at times turning aside to chastise the tribes in the neighbourhood. Arrived at this point, he found it necessary to march against the Cathaiahs who had fortified a defensive position at their city of Sangala, identified with Sangalawala Tiba, a place some fifty miles west of Lahore, through which place the Macedonian army in all probability passed. The Cathaiahs were drawn up on a low hill, behind a barricade of carts, laagered in three rows. After some severe fighting the Indians were driven from this laager, and took refuge in the city which Alexander invested, surrounding it as far as his numbers would admit of, posting his cavalry round a deep lake which lay near the walls, and by degrees building a stockade to encircle the place completely except at the gap where the lake lay. The enemy, endeavouring to break out by night at this point, were driven back with some slaughter, and eventually the Macedonians escalated the wall, stormed and captured the place, and killed some thousands of the inhabitants, losing themselves 100 killed and 1,200 wounded during the siege. Sangala was razed to the ground and Alexander then recrossed the Ravi below Lahore, and marched to the Hyphasis, now known as the Sutlej.

Arrian tells us that Alexander had heard that the country beyond the Hyphasis was rich, and the inhabitants were excellent agriculturists and soldiers, being governed mildly and justly by their nobility, whilst they possessed more and larger elephants than the people of other countries. Fired by an ambition to conquer these countries and add the whole of Asia to his dominions, he wished to cross the Hyphasis and undertake the invasion of the territories that lay beyond it. But his army, worn out by the lengthy and arduous campaign of many years, wished to go no farther, and at a council of war called by the Macedonian King all his generals expressed a similar desire. He therefore decided to return, and marched back to the Hydaspes, where Hephæstion had in the meantime built the two cities Nikaia and Bucephala. Here a fleet was built for the passage down to the sea, and having appointed Porus king of the subjugated nations, Alexander embarked on board with a portion of his army, sending Craterus and Hephæstion in command of a division on either bank of the river, with orders to march against the capital of Sopithus, king of the country between the Jhelum and Chenab rivers.

The fleet was now ready to set sail on its river voyage to the great sea that lay beyond the delta of the Indus. There were eighty great galleys, each with two banks of thirty oars, crowded with men in armour. There were transports for war-horses, supplies, and the spoils of war, in all 2,000 sail under command of admiral Nearchus. The army commenced to embark at day break towards the end of October 326 B. C., and Alexander, having poured out libations to the gods and to the river from a golden bowl, had the signal to start given by sound of trumpet. And so the ships set sail down the Jhelum river, amid the shouts of the rowers that resounded from the echoing banks as they attuned their voices to the rhythm of the oars. The din reverberated among the neighbouring ravines, mingling with the sound of many waters, the clash of arms, and the wild songs of the Indians who thronged upon the bank to witness the departure of the fleet, and accompanied it for a great distance. At the confluence of the two streams, where they arrived on the fifth day, the voyage was rendered dangerous by rocks and eddies, and here several ships were wrecked, and the fleet had to stay awhile for repairs, whilst Alexander made an incursion into the neighbouring country to subdue the barbarians. Nearchus, admiral of the fleet, in the meantime sailed according to his orders to the confines of the country of the Malli, whose capital was the modern Multan, where he was rejoined by Alexander; and where Hephæstion, Craterus, and Philippos, the satrap of the province west of the Indus, who had followed with his troops, had already assembled their forces.

From this point Nearchus was directed to set sail three days in advance of the army, which was divided into three portions. Hephæstion was sent five days in advance, to intercept such of the enemy as might flee before the King's division, whilst Ptolemy was directed to follow three days in rear with another division to capture those

who fled backwards. All were ordered to assemble at the next confluence of rivers—that of the Chenab and Ravi (Akesines and Hydraotes).

Alexander then set out with his division on an expedition against the Malli, whose capital was the modern Multan, and whose country extended as far as the confluence of the Chenab and Indus. Marching in a south-easterly direction, the Macedonian general crossed a waterless desert, and surprised the Malli at one of their cities on the right bank of the Ravi, said to have been where the small town of Kot-Kamalia now stands. These Malli were a brave people, and offered a desperate resistance, but their citadel was eventually stormed by Alexander at the head of his men, and its 2,000 defenders put to the sword. Several other strongholds were taken, including a "city of the Brahmans," which may have been the old ruined town and fort of Atara, 34 miles from Multan, and which was stormed with the aid of scaling ladders, the Macedonian king as usual being foremost in the fray. Hearing that the enemy had all fled to their capital, he marched on that place (Multan), defeating *en route* an army 50,000 strong on the banks of the Ravi.

Next day Multan was attacked, the city being taken and the defenders driven into the citadel. Alexander now seized a scaling ladder, and, mounting the wall, was assailed on every side by missiles, so, followed by three of his men, he leapt down among the enemy below, laying about him with his sword. Others tried to follow him, but the ladder broke under their weight, so that the few within were left alone, and were soon wounded. Alexander's breast being pierced by an arrow, so that he fainted from loss of blood, but was covered by his men with shields. At length the Macedonians, by driving pegs into the mud walls, succeeded in surmounting them; others broke in through a gate, and the whole of the inhabitants, man, woman, and child, were killed. The King, who was supposed by his people to be dying, was borne off on a shield. Some even thought that he was dead, but he gradually recovered from his wound, and, being placed on board ship, continued the voyage to the Indus, having received the submission of the surviving Malli and other tribes.

Arrived at the confluence of the Chenab and Indus, Alexander awaited a detachment of his troops which had been employed in reducing other tribes *en route*. Here also he built dockyards and founded a city on the site of the modern Mithankot, and having appointed satraps of the conquered territories, he subjugated several neighbouring tribes and cities, and then proceeded to Patala, at the apex of the Indus delta. The historians give little and vague information regarding this journey through Sind. The whole voyage from the start on the Hydaspes to the sea probably occupied eight or ten months, fixing the

date of arrival at the mouth of the Indus at about July 325 B.C. It would appear that the Indus delta has altered considerably during the past two thousand years, so that from this point Alexander's voyage cannot be exactly followed on the modern map. Arrian relates that he sailed down the right arm of the river, which split into two branches at Patala. The course of the fleet was followed by a force on shore, but no further opposition was met with, save from the elements, most of the ships being injured and many destroyed in a great gale that arose, whilst the crews of the damaged galleys managed to run their vessels ashore and escape with their lives. Indian pilots were then employed in steering the ships to the open sea. Arrived at the sea, the Macedonians were astonished and alarmed at their first experience of the phenomenon of the tide, which, receding, left their ships high and dry, and floated them again on its return; some, however, which were not firmly anchored, were shattered by the waves. Alexander then put out to sea to two islands that lay in the offing, and offered sacrifices to the gods for the safe voyage of his fleet up the Persian Gulf to the Euphrates and Tigris. Bulls were cast into the sea as an offering to the gods Ammon and Poseidon, as well as libations and the golden goblets in which they were contained.

Having paid another visit to Patala, Alexander sailed down the other branch of the Indus, and thence explored a portion of the coast, and constructed docks in a lake into which the river had widened in those days. All this time his fleet was being prepared for the voyage on which it set out under Nearchus, while Alexander marched through Makran to Karman, subduing several tribes on the way, and encountering terrible hardships on the journey through the desert.

The invasion was at an end, and I do not propose to follow the Macedonians in their retreat from India, which was ably described by Colonel Holdich in a lecture delivered at this Institution, and printed in the *Journal* for June 1894. It may be mentioned that the route followed was generally not far from the coast; and from this retreat and the route taken by the invading army in its advance from Kabul a moral may be drawn.

It is generally considered that the main lines of advance for an invasion of India from the north-west must lie through the Khyber and by way of the Bolan pass. Alexander avoided the Khyber in his invasion, whilst his retreat was by a line far south of the Bolan. What has been once accomplished may happen again. An advance from the west by the general route followed by the Macedonians in their retreat would also appear to be by no means impossible.

The Macedonian invasion did not leave any permanent mark on the country. Such imprints as it made on the sands of time have been swept away by succeeding waves of invasion and conquest, which have left no trace of Great Alexander save some submerged ruins and scattered coins, and possibly a few traits of Macedonian

physiognomy among the people of the regions through which he marched more than two thousand years ago. The last vestiges of Macedonian conquest were no doubt swept away by the Muhammadan invasions which, commencing in the eighth century of the Christian era, continued at intervals to pour wave upon wave into the country until the middle of the eighteenth century.

The empire that he founded and the cities that he built have passed away like the baseless fabric of a dream, as have succeeding empires, and more recent cities. India is full of the melancholy romance of fallen empires, and kingdoms, and cities—the futile dust of nations—evidence to the vanity of all human attributes save that wisdom which teaches us to take advantage of the lessons of history. The ghosts of the past haunt the country in the dim twilight of the ages—witnesses of the vicissitude of all things and types of the things to come.

II. MUHAMMADAN INVASIONS.

"Think, in this batter'd Caravanserai
 Whose Portals are alternate Night and Day,
 How Sultan after Sultan with his Pomp
 Abode his destin'd Hour and went his way."

Northern India soon became engulfed in the great religious movement which commenced with Muhammad and spread eventually to the farthest confines of the old world, embracing a considerable portion of Europe and a great part of Asia from far Cathay to the Red Sea, and extending far across the unknown regions of the Dark Continent. The green banners of Islam were carried on the wave of invasion and conquest which flowed across this vast region, stopping only on the shores of the Pacific and Atlantic Oceans, and extending from the torrid zones of the Indian Ocean to the icy margin of the Arctic Sea. And throughout all this tidal movement India was constantly swept by invading hordes of Arabs, Mughals, Afghans and Persians. Empires were established, rose and fell, and from their ashes phoenix-like, new empires arose through all the ages as sultans became effete and invading nations, lapsing into decay, were succeeded by more virile races.

The Muhammadan inroads upon India appear to have commenced with a military expedition, despatched from Oman about A. D. 636 to pillage the coasts of this country. This expedition penetrated as far as Thana in Bombay, but it was not until some 26 years later that the first invasion from the north-west took place from the direction of Makran, when Sind was conquered by the Turks under one of Abdur Rahman's officers, who advanced as far as Lahore, but was defeated and slain with all his followers.

The Arabs in Sind under Muhammad Kasim.

Early in the eighth century Muhammad Kasim, having conquered Sistan, invaded India by way of Makran, and captured Multan and other towns in the Punjab, after overrunning the whole of the province of Sind, where he established the rule of the Khalifa of Baghdad. In this conquest of Sind six thousand Syrian cavalry were employed, as well as a camel corps of six thousand men, and a battering train of catapults, each of which implements required 500 men to work it. The siege train was conveyed by sea to Debal. In addition there were Jat and Med mercenaries enlisted under the Mussalman banner; and altogether, according to the Arab historians, not less than 50,000 men marched to the siege of Multan, in addition to which were the garrisons left in Sind.

Having taken Debal, Muhammad Kasim took his forces in boats up the Sind Sagar and occupied Nirun, whence he proceeded to Sivistan, a town situated on the west bank of the Indus, which was taken after a week's siege. Returning to Nirun after this excursion he undertook an expedition against Rai Dahir, a chief on the east

bank of the Indus. For the passage of the river a number of boats, equal to the estimated breadth of the stream, was collected on the west bank, and joined together. The boats at the head of this floating bridge were filled with archers, and when all was ready the structure was swung across, the archers driving off the enemy posted to oppose the passage. The bridge was then made fast, the army crossed, and the enemy was defeated. The Arab horsemen, who were clad in armour, now moved on to the fort of Bait, followed by the main army, and leaving a garrison here Muhammad Kasim marched to Jeypur, fighting *en route* "the accursed Dahir", who fled to the fort of Rawar. Here a five days' battle took place, in which Dahir was killed after the howdah in which he sat on his white elephant had been set on fire by a naphtha arrow.

The defenders 15,000 in number now retired to the fort, which Rani Bai, sister of Dahir, determined to defend to the last. But the besiegers having undermined the walls and thrown down the bastions, took the fort and put the defenders to the sword. Rani Bai and her women took refuge in a house, set it on fire, and burnt themselves to death. Muhammad Kasim now marched on Brahmanabad, taking on the way the forts of Bahrur and Dhalila, which were defended by 16,000 fighting men. In the capture of these forts naphtha, mangonels, and ballista were used, by means of which the walls were thrown down, and all the defenders slain.

After a siege of over six months the fort of Brahmanabad was next taken, and Muhammad Kasim then stayed the course of conquest for a while to settle the administration of the country. He then marched upon the fort of Alor, the capital of Sind which capitulated. And after settling this country he went on and captured the fort of Yabiba on the Bias, and then, having crossed this river, fought several sanguinary battles, and at length took Multan. Thence he marched on through the Punjab to the southern slopes of the Himalayas and the boundary of Kashmir.

Muhammad Kasim came to an untimely end. He had sent the 2 daughters of Dahir to the Khalifa, who, becoming enamoured of one of them, was falsely told by her that she had been insulted by the conqueror of Sind, who was thereupon executed by order of his master.

SABAKTAGIN.

There is a gap in the history of Mussalman invasions until we come to the time of Sabaktagin, founder of the Ghazni dynasty, who made an invasion into India in the year 977 A. D., but of whose expedition no details are available. It appears that, having taken Kabul, he advanced in that year into the Punjab by way of the Khyber pass, and thence returned to Ghazni with considerable spoil. He again marched the same year against Jaipal, king of this part of India, who was preparing an army for offensive operations. The latter was defeated,

and made terms for paying a tribute, but basely broke the treaty, whereupon the king of Ghazni again advanced into India.

To meet this fresh invasion Jaipal, allied with the kings of Delhi, Ajmere and others, assembled an army of 100,000 horse and 200,000 foot. Sabaktagin's cavalry although inferior in numbers, were better mounted, and, dividing his troops into squadrons of 500 each, which he ordered to attack in turn, he harassed the India army continually with fresh troops, wearing them out so that they broke and were defeated with great slaughter. They were pursued to the banks of the Hydaspes in the waters of which many of them perished. By this battle, Ferishta tells us, "Sabaktagin acquired much glory and wealth; for, besides the rich plunder of the Indian camp, he raised great contributions in the countries of Limgan (Kashmir) and Peshawar, and annexed them to his own dominions, joined them to his titles, and stamped their names upon his coins. One of his omrahs, with three thousand horse, was appointed to the government of Peshawar; and the Afghans, who resided among the mountains, having promised allegiance, he entertained some thousands of them in his army, and returned victorious to Ghazni."

MAHMUD OF GHAZNI.

Mahmud, son of Sabaktagin, had accompanied his father and, distinguished himself in this war, so that he was quite prepared to carry the Mussulman conquests further into India when he succeeded to the throne in 997 A. D.

Three years after his accession he undertook his first invasion of India, of which, however, no detailed record is extant.

The following year, at the head of 15,000 horse, he again advanced by way of Peshawar, where Jaipal with an army of 8,000 cavalry, 30,000 infantry, and 300 elephants was ready to oppose him. Seeing Jaipal halt to await the arrival of reinforcements, Mahmud seizing the initiative, immediately advanced to the attack, and, as the chronicler hath it, "wrested the power of choice from his hand." A great battle ensued, in which the Indians were defeated; "nearly five thousand carcasses of the infidels cut in half by the sword lay upon the field of battle, as food for dogs, and as a gift for wolves, and fifty elephants were cut down by the stroke of arrows and of swords." After this defeat Jaipal resigned his kingdom, and having intimated that he would be boiled in the hot water of hell sacrificed himself on a funeral pile; having shaved his head he threw himself into the fire, and "went into the lowest of the pits of hell." (Kitab-i-Yamin).

Mahmud returned to Balkh after this invasion, but came back to

India the following year to levy tribute which had not been paid. There is nothing to show by what route this march was conducted, but as he had just concluded an expedition to Sistan, it is probable that

the advance was from the direction of that province, and we are told that "he passed over the Indus and the province of Multan" and advanced against the town of Bhera, in the Salt range, whose prince was the principal offender, and possessed great wealth and power. This city had a wall so high that "it could be reached only by eagles," and was surrounded by a moat. The prince drew up his forces in front of the city and held out for three days, but on the fourth day was driven within the walls by an impetuous charge, in which Mahmud "wielded a two-handed scimitar and cut a man in half, together with his casque and coat-of-mail." Next night, perceiving that the moat was being filled up, the prince abandoned the town, leaving a small garrison, and took up a position on the bank of the Indus where, his army being surrounded and nearly all destroyed, he took his own life, Mahmud in the meantime captured the city by assault, taking a great quantity of treasure and arms and 160 elephants.

Next year Mahmud set out with the intention of conquering Multan, and was opposed in the mountains of Peshawar by Andpal, prince of Lahore, whom he defeated and who fled to Kashmir. The Sultan then passed through the Punjab, ravaging the country *en route*, and entered Multan, which was abandoned by its Governor on his approach.

Three years later Andpal disturbed the province of Multan, which Mahmud had apparently occupied in the meantime. The latter consequently marched again towards India with a large army, and was met in the vicinity of Peshawar by a great force, probably on the bank of the Kabul river. The battle which ensued lasted many days, Mahmud being obliged to intrench himself, as he was surrounded by superior numbers. Many thousands were slain on both sides, but at length the Sultan charged the enemy at the head of his own guards, and dispersed the Hindus who, being pursued for ten days by six thousand Arabian horse, and ten thousand Turks and Afghans, lost 20,000 men killed in addition to those who fell on the field of battle. It is said that the elephant on which the prince of Lahore was riding took fright at the firing of a gun, and turned tail during the action, thus spreading panic among the Indians, who thought their leader was fleeing. It is interesting to note that many eastern writers mention the use of guns during this period, when they were unknown in Europe. Following up his conquest, Mahmud marched against Bahim, near Nagrakot in the Lahore District, where a famous fortress, stored with the wealth of the kingdom, stood on the summit of a steep mountain. This place capitulated after a few days' investment, and the Sultan returned to Ghazni with immense booty in gold, silver, and precious stones.

In this year Mahmud set out on a great expedition, apparently undertaken with the object of converting the people to Islam; as Al Utbi puts it—"that the standard of Islam might be exalted by vic-

tory, and the figures of idols might be overturned." His especial objective on this occasion was the town of Thanesar, where a much venerated Hindu idol named Jug Soom, as well as other smaller ones, had excited his religious antipathy. Al Utbi tells us that on this occasion the invading army "passed an extensive waterless desert so dreadful that a bird would not fly over its atmosphere," from which they emerged on to the bank of a great river, where having crossed the stream by two fords, the Hindu army was engaged and defeated with great slaughter. Ferishta, however, makes no mention of this battle, but says that Thanesar was captured before any measures could be taken for its defence. At any rate the idols were broken down and stripped of their ornaments, and Jug Soom was sent to Ghazni and beheaded. Delhi was also taken, but whether Mahmud encountered any opposition there is not related. He returned to Ghazni with forty thousand captives and immense wealth.

In the year 1015 Mahmud set out with 20,000 men to conquer Kanauj. It is impossible to make out the route he followed, but in the *Kitab-i-Yamini* we are told that it was a six months' journey from Ghazni, and that he went "from the rivers Jhelum and Chenab the straight way to Tibet and passed Iskandar," marching daily from midnight to sunset. Iskandar was perhaps the modern Skardo or Iskardo, but the invader's route is obscure. Arrived on the frontiers of Kashmir, the Mussulman army was guided by Sabli, general of the Kashmir troops, over the passes, and, taking all the hill forts *en route*, the Sultan marched upon Bulandshahr, which capitulated.

Proceeding thence to Muttra, after taking a strong fortress belonging to one Kubhand *en route* where 5,000 were slain and 185 elephants taken, he captured that place and then marched against Kanauj, which, we are told, "consisted of seven distinct forts, washed by the Ganges, which flowed under them like the ocean." Al Utbi says—"Nearly ten thousand temples were built in these forts, and these dotard and lying idolaters declared that the date of the commencement of these fabrics was two or three hundred thousand years." Kanauj surrendered, or was taken in one day, and many other forts were captured or capitulated, including Manj whose Rajput garrison resisted for twenty-five days. From this expedition Mahmud returned to Ghazni with immense wealth in gold, jewels, and slaves.

Hearing that the Raja of Kanauj had been attacked by the neighbouring princes for having submitted to him, Mahmud marched in the year 1020 to punish them, "with his bold warriors, whose greatest pleasure was to be in the saddle, which they regarded as it were a throne; and hot winds they looked on as refreshing breezes, and the drinking of dirty water as so much pure wine, being prepared to undergo every kind of privation and annoyance."

Ninth expedition.

Presumably on this occasion the invaders marched direct by the Khyber pass. Slaying all who refused to submit, they arrived on the bank of the Jumna opposite the Hindu army, which was encamped on the other side. Eight Mussalmans swam across before dawn with the aid of inflated skins, and struck such a panic into the hostile forces that they all took to flight, leaving their camp in the enemy's hands, besides nearly six hundred elephants. Mahmud marched back to Ghazni as usual with the spoils of war.

There is a certain amount of monotony about Mahmud's expeditions to India. They appear to have been undertaken either as *jehad* or holy war, or for pure purposes of plunder, and on each occasion he returned to Ghazni without attempting to establish any permanent empire in India. In 1022 he captured Lahore, and the following year he took Gwalior, sacked

Capture of Lahore, Gwalior,
Ajmere and Somnath.

Ajmere, and the famous temple of Somnath near Diu, which is now a possession

of the Portuguese, where he destroyed the great idol, himself striking off its nose with his mace. This sacred place was not, however, surrendered without a fierce battle, in which the Mussalman army was on the point of being vanquished, but, inspired by the personal example of their leader, managed to turn the tide of victory. The garrison of Somnath tried to escape in boats, but were followed up in other boats, and mostly destroyed. Immense wealth was taken on this occasion, the belly of the great idol, when broken open, being found full of diamonds, rubies, and pearls.

The whole of Guzerat was then reduced, and Mahmud appears to have been inclined to establish himself there, but was persuaded by his council to return to Ghazni, which he did after an absence of two years and a half.

MAHSUD'S INVASIONS.

In the year 1031 A. D. Mahsud son of Mahmud of Ghazni, having ousted his brother Muhammad and succeeded to the throne two years previously, sent an army to invade Makran and Cutch, but it was not until the following year that he undertook the invasion of India. Marching to Kashmir, by what route is not apparent, "he invested the Fort of Sursutti which commanded the passes," and having filled up the ditch with sugarcane, carried the place by storm and slaughtered the whole garrison, sparing neither age nor sex.

In 1035, Mahsud again invaded India, capturing Hansi, Sonpat, and Lahore, and left his son as governor of the city and province of Lahore. Subsequently, being defeated in Khorassan, he collected all the wealth of Ghazni, and fled to Lahore, but on arrival on the Jhelum was deposed in favour of his brother Muhammad.

MUHAMMAD GHORI.

In the year 1180, Muhammad Ghor, prince of the house of Ghor in the mountains of that name, having conquered the king-

dom of Ghazni, marched through the Khyber pass, overran the provinces of Peshawar and Multan, and advanced against Lahore, which had been chosen as his capital by Khusru, the representative of the Ghazni dynasty. Khusru, however, held out, and by the terms of a treaty concluded with the invader, the latter returned to Ghazni, having built and garrisoned a fort at Sialkot. Four years later he came again at the head of twenty thousand horse, and, having advanced by a circuitous route, cut off Khusru from his capital which he captured. The Ghazni dynasty was thus deposed, and the empire passed to the house of Ghor.

In the year 1191 Muhammad marched to Ajmere, and established a garrison there. On his return he heard that the prince of Ajmere and his brother the king of Delhi had joined forces to attack him with two hundred thousand horse and three thousand elephants. He met them on the field of Taraori, fourteen miles from Thanesar. Being out flanked by the enemy, both wings of his army fell back, and he was entirely defeated, and pursued for forty miles. In this battle Muhammad engaged in a personal combat with the king of Delhi, and drove his lance into his mouth and "knocked two of the accursed wretch's teeth down his throat;" but the king wounded him in the arm, and he was carried off the battle field to Lahore. It was his fall which occasioned the panic that caused the final dispersal of his army. He found a novel method of punishing his unsuccessful officers. Ferishta tells us that "At Ghor he disgraced all those omrahs who had deserted him in battle. He obliged them to walk round the city with their horses' mouth-bags, filled with barley, hanging about their necks; at the same time forcing them to eat or have their heads struck off; the former of which they chiefly chose to do."

In order to avenge this defeat, Muhammad Ghor marched into Hindustan at the head of a hundred and twenty thousand horse, clad in armour, Turks, Persians and Afghans, many of whom had their turbans ornamented with jewels, and their armour inlaid with silver and gold. He had previously left a garrison at the fort of Sirhind, but before he could arrive to relieve it, the defenders were obliged to capitulate to the kings of Delhi and Ajmere. Marching through the Khyber pass, and thence by way of Multan and Lahore, Muhammad sent to Ajmere a messenger offering as an alternative to war the acceptance of Islam. The Ajmere king assembled all the neighbouring princes, and advanced to meet the Mussalman army with an army of 300,000 horse, 3,000 elephants, and a great body of infantry. The encounter took place at Taraori, where the battle had been fought the previous year. The hostile armies were encamped with the river Sarsuti between them. Muhammad, leaving his main body in rear, forded the stream at dawn, and his light armoured horsemen, divided into four divisions of 10,000 each, assailed the enemy with

Defeat of Muhammad by the king of Delhi.

Conquest of Hindustan.

Battle of Taraori.

arrows on all sides, harassing them in this manner, and retreating before the advance of their elephants. These tactics much resembled the traditional manœuvres of the Cossacks, which are said to be of Mongolian origin. Towards sunset the Indian army was exhausted, when Muhammad, placing himself at the head of twelve thousand horse, made a decisive charge, and completely routed the enemy, who recoiled like a troubled torrent from the bloody plain. The king of Delhi was slain on the field and the Ajmere prince fell in the pursuit. Immense spoil fell into the hands of the victor, who proceeded to Ajmere, and put many thousands of its inhabitants to the sword. Leaving his general and former slave Kutb-ud-din in charge of the conquered districts, he returned to Ghazni, but came back the

following year and having defeated Rai Jai, entered Benares. His Viceroy Kutb subsequently conquered other places, including Delhi, where he established the dynasty of the Slave Kings.

In 1205, the Ghakkars having advanced against Lahore, Muhammad marched from Ghazni to chastise them, and, co-operating with Kutb's army from Delhi, dispersed them, and took up his residence at Lahore. These people continued to give a great deal of trouble, cutting his communications with Peshawar and Kabul, and eventually they assassinated him.

MUGHAL INVASIONS.

Although Changiz Khan did not himself pass the Indus, on the banks of which he halted after defeating Jalal-ud-din and driving him beyond that river into India, in the year 1217-A. D., the Mughal incursions into India commenced from his time, for one of his generals captured Multan, whilst another invaded Karman and entered Sind. During the thirteenth century, however, commencing about the year 1258, those constant irruptions of Mughals took place which ended only with the establishment of Babar's empire

In the year 1282 the Mughal Chief Muhammad invaded Multan, but was defeated and slain by the son of the Delhi king. Returning next year, the Mughals ravaged all the country about Lahore. The prince again advanced against them, and defeated them, but was himself killed in the pursuit. Many similar irruptions took place, but the Mughals appear to have been always driven back until the year 1325, when Chagatai invaded Hindustan with an immense army, conquered Kashmir and the greater part of the Punjab, and invested Delhi. He was induced to raise the siege for a ransom of gold and jewels, "receiving almost the price of an empire", and returned to his own country, plundering Guzerat and Sind on the way. But this appears to have been the sole great success obtained by the Mughals until the invasion of Taimur in 1398.

THE INVASION OF TAIMUR OR TAMERLANE.

Writing from Khokand in 1877 regarding a possible invasion of India, the Russian General Skobeleff said—"It would be our chief

duty to organise masses of Asiatic cavalry, and hurling them on India as our vanguard, under the banner of blood and rapine, thus bring back the times of Tamerlane." If such a method of invasion is still contemplated by prominent Russian officers, the history of Tamerlane's expedition may be considered peculiarly interesting and instructive.

Taimur (known as Taimur *Lang*, or the lame, whence the name Tamerlane) king of Tartary having established his power over all Western Asia, and a portion of Russia, had placed his grandson Pir Muhammad, in the year 1396 A. D., in charge of the provinces of Balkh, Ghazni, Kabul, and Kandahar, as far as the frontiers of India. But, looking to further conquests, the Tartar emperor directed his grandson to advance to India in 1398, whilst he himself prepared to support him with an invading horde. Pir Muhammad accordingly advanced over the Suliman range between Kabul and Kandahar, crossed the Indus at Uch, and invested Multan, which fell after a six months' siege. The people of the surrounding country, however, rose, and invested the place. Pir Muhammad's horses all died for want of forage, and he was for some time in great straits. In the meantime, however, Taimur had crossed the Hindu Khush, and marching by way of the Kurram and Bannu, having detached a force of 30,000 horse to relieve Multan, he crossed the Indus, by a bridge constructed of boats and reeds, at Dinkot on October 11th, 1398. There is no means of ascertaining the strength of Taimur's army, but it must have been a great force, apparently principally composed of mounted men, and he had half the princes of Asia in his train. He plundered and massacred the country through which he passed, thus settling without much difficulty the commissariat question.

Arrived at the Indus, Taimur despatched one of his lieutenants Shaik Nureddin with a force against Mubarak, who had been placed in charge of the frontier districts by the king of Delhi. Mubarak had intrenched himself on the bank of the Chenab in a position which he had formed into an island by digging a ditch all round the encampment, connected with the river on either side. One account of the battle that ensued says that Nureddin managed to fill in the ditch, another that his men forded the river to attack Mubarak. Fighting went on until nightfall without any decisive result. At night ten thousand of the besieged made an attack on the Mughal camp, but were at length driven off, and retreated within their entrenchments.

Taimur then advanced with his whole army, whereupon Mubarak took flight in boats with some of his following, and rowed down the river to Uch, being pursued on both banks and losing many men killed by the Mughal archers, whilst Pir Muhammad's troops from Multan intercepted and destroyed the greater part of the flotilla. After the departure of their chief the remainder of the garrison surrendered. Marching down the Jhelum to its confluence with the Chenab, Taimur encamped near a town and fortress called Tulumba, and there had a bridge constructed for the passage of the river, which was crossed after the town had been sacked and the inhabitants mas-

sacred. Many other cities were pillaged in the same manner, no mercy being shown to the unfortunate people who offered any resistance, and, pursuing this course of blood and rapine, the Mughal army advanced towards Delhi. Arrived at Panipat the soldiers were ordered to put on the thick cotton padded coats which served them for armour. The Jumna was then crossed, the fort of Loni taken by assault and its defenders put to the sword, and Taimur encamped before Delhi on January 1st, 1398, having the previous day had a hundred thousand prisoners massacred in his camp lest they should side with the enemy in the approaching battle.

On January 3rd Taimur drew up his army in battle array, giving command of the right wing to his grandson Pir Muhammad. The

Battle of Delhi.

strength of the Mughal Army is not recorded. Their opponents mustered "ten thousand horse well equipped and forty thousand foot armed to advantage; besides several elephants of war, armed with cuirasses, having between their long tusks great poisoned daggers, and on their backs wooden towers in the form of bastions, on which were mounted a great many crossbow men and archers, who could fight under cover as in fortresses; and on the side of the elephants marched the slingers of fire and melted pitch, as also rockets armed at the end with iron, which give several blows one after the other wherever they fall".

The Mughals were somewhat afraid of the elephants, with which they were unacquainted, and which they thought were invulnerable to their weapons. Consequently Taimur ordered a rampart of bucklers to be made in front of the ranks, and a ditch to be dug before the rampart: "then he caused buffaloes to be tied by the neck and feet with long pieces of leather, close to each other; after which brambles were fixed on each side of them and on their heads. Besides this iron hooks were made three-forked and fixed to stakes; so that when the elephants should come to the attack, these hooks should be planted in their way, and the brambles on the buffaloes set on fire to put the elephants to disorder". Certainly a very ingenious form of obstacle! A desperate battle ensued, in which the Indians were defeated with great slaughter and driven to the gates of Delhi, where Taimur encamped, after having reconnoitred the walls. In the night Mahmud king of Delhi and his minister fled from the capital, and next day the great men of the city submitted to the invader. The occupation of the city was followed by the usual inhuman massacre, to which the inhabitants, although numbering ten to one of their enemies, submitted like sheep to the slaughter.

After a halt of fifteen days the Mughal emperor marched to Panipat, and from thence despatched

Siege of Meerut.

a force to besiege Meerut; but finding the garrison determined to resist, Taimur marched with his whole army, filled up the ditch, escaladed the fort and put the defenders to the sword, after which the walls and bastions were blown to pieces.

Pursuing his course with fire and sword, he laid siege to and captured Lahore, made several incursions into the Siwaliks, invaded Jammu, and marched back to Kabul and Samarkand. Disturbances in Persia prevented Taimur establishing any permanent empire in India, which he felt convinced could be at any time reduced by the superiority of his soldiers over the Pathans. His army passed over the face of the land like the blast of the simoom, leaving desolation in its track but having no permanent effect on the conquered country.

BABAR.

Up to the time of Babar no permanent empire had been established throughout India by the invaders from Central Asia. Mahmud of Ghazni had made many incursions into the rich country that lay beyond the Indus, but they were all of the nature of raids, and on each occasion he retired to his capital with the spoils of war. Changiz Khan and Taimur at the head of their Tartar hordes had swept over the land with fire and sword, but their hosts rolled back towards Central Asia like the tide of a troubled sea, and the unchanging East once more sank back into the slumber that had been broken by these incursions. It was left to Babar, with the blood of both these conquerors in his veins, to lay the foundations upon which his grandson Akbar built up the great Mughal empire.

Babar is one of the most interesting personalities in Oriental history. Not only a great soldier and administrator, but a man of letters like many others among the great ones of the Earth, he could wield the pen as well as the sword, and turn a quatrain or lop off an infidel's head with equal facility. His memoirs, written in excellent style without any of the usual ornate verbiage and imagery by which oriental literature is generally obscured, form most interesting reading and the story of his wanderings and adventures is like a tale from the Arabian Nights. Driven from the throne of his fathers at Samarkand at an early age, he at length established himself on the throne of Kabul in the year 1504 A. D., and thence made several incursions into India, where he finally founded the great Mughal Empire. He was addicted to the use of intoxicating liquors and drugs, and throughout his memoirs we find naive accounts of his drinking bouts with his boon companions, sometimes rounded off with a quatrain quite in the Omar Khayyam style.

Ferishta tells us :—" when he had an inclination to make merry he sometimes used to fill a fountain with wine, upon which was inscribed a verse to this purpose : " Jovial days ! Blooming springs ! Old wine, and young maidens ! Enjoy freely, Oh Babar, for life is not twice to be enjoyed ! " He then would sit down in the midst of his friends, drink freely, and feast his eyes on the daughters of beauty who danced before him." And adds :—" with respect to his military character he seems to have had few that could equal him. He rendered the most dangerous enterprises easy, by his undaunted



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BABAR

courage and perseverance, which rose above all difficulties and made him much more the object of admiration in his adversity than in the height of his prosperity. Nor did he forget himself in the latter, but always behaved with that moderation and equanimity which characterises a great soul."

Babar had long contemplated the conquest of India, and in 1519 took advantage of factions

First invasion.

among the Lodi family of Pathan Kings of Delhi to attempt the undertaking, looking upon the country conquered by his ancestor Taimur as his by right. Advancing apparently by much the same route as Alexander of Macedon, he besieged the fort of Bajaur, and wrote a graphic and instructive account of this enterprise in his memoirs:—"On

Siege of Bajaur.

Thursday the 4th Muharram, I ordered the troops to put on their armour, prepare their weapons, and mount in readiness for action. The left wing I ordered to proceed higher up than the fort of Bajaur, to cross the river at the ford, and to take their ground to the north of the fort; I ordered the centre not to cross the river, but to station themselves in the broken and high grounds to the north-west. The right wing was directed to halt to the west of the lower gate. When Dost Beg and the Begs of the left wing were halting, after crossing the river, a hundred or a hundred and fifty foot sallied from the fort and assailed them by discharges of arrows. The Begs, on their side, received the attack, and returned the discharge, chased back the enemy to the fort, and drove them under the ramparts. Mulla Abdul Malik of Khost madly pushed on his horse, and rode close up to the foot of the wall. If the scaling ladders and tura (under cover of which besiegers advanced) had been ready, and the day not so nearly spent, we should have taken the castle at that very time. Mulla Turk Ali, and a servant of Tengri Berdi, having each engaged in single combat with an enemy, took their antagonists, cut off their heads, and brought them back. As the people of Bajaur had never seen any matchlocks they at first were not in the least apprehensive of them, so that when they heard the report of the matchlocks, they stood opposite to them mocking and making unseemly gestures. The matchlock men showed great courage and behaved finely. Quitting their shields, their mail, and their cowheads (hide awnings to enable them to load under cover), they plied their shot so well that before evening seven, eight, or ten Bajauris were brought down by them; after which the men of the fort were so alarmed that, for fear of the matchlocks, not one of them would venture to show his head. As it was now evening orders were given that the troops should be drawn off for the present, but should prepare the proper implements and engines for assaulting the fortress in the morning twilight.

On Friday the 5th Muharram, at the first dawn of light, orders were given to sound the kettledrum for action. The troops all moved forward according to the stations assigned them and invested the place. The left wing and centre having brought at once an entire tura from their trenches, applied the scaling ladders and began

to mount. Khalifah Shah Hassan Arghun, and Ahmed Yusuf, with their followers were ordered from the left of the centre to reinforce the left wing. Dost Beg's men reached the foot of a tower on the north-east of the fort, and began undermining and destroying the walls. Ustad Ali Kuli was also there, and that day too he managed his matchlock to good purpose; the Feringhy piece (cannon) was twice discharged. Wali Khazin also brought down a man with his matchlock. On the left of the centre Malik Kutub Ali having mounted the walls by a scaling-ladder, was for some time engaged hand to hand with the enemy. At the lines of the main body, Muhammad Ali Jeng-jeng and his younger brother Nouroz mounted by a scaling-ladder, and fought bravely with spear and sword. Baba Yesawel, mounting by another scaling-ladder, busied himself in demolishing with an axe the parapet of the fort. Many of our people bravely climbed up, kept plying the enemy with their arrows, and would not suffer them to raise their heads above the works; some others of our people, in spite of all the exertions and annoyance of the enemy, and not minding their bows and arrows, employed themselves in breaking through the walls, and demolishing the defences. It was luncheon-time when the tower to the north-east, which Dost Beg's men were undermining, was breached; immediately on which the assailants drove the enemy before them and entered the tower. The men of the main body at the same time also mounted by their scaling-ladders, and entered the fort. By the favour and kindness of God in the course of two or three hours we took this strong castle." All the defenders, numbering some 3,000, were put to the sword, and the women and children taken into captivity.

Marching from Bajaur, Babar encamped on January 21st between the Panjkora and the junction of the Jandol and Bajaur rivers, indulging *en route* in some hunting, a pastime of which he was very fond, and thence, plundering the Panjkora valley on the way, he marched to its junction with the Bajaur river, and crossed from there into Buner, making several excursions against the tribes. Marching down the Sind valley, he crossed the Indus near Attock on February 17th; and reached Bhira, south of the Salt range and about fifty miles to the south of Rawal Pindi, on February 20th. He now considered himself to be in his own country, these regions having been conquered by Tamerlane, who had established members of his family to rule over them. He consequently gave orders to his troops to refrain from plundering or injuring the inhabitants, all of whom submitted to him, except the Ghakkars of the Salt range who had given so much trouble to previous invaders, and whom he attacked, putting the Chief Tatar Ghakkar to death, and taking his country and property. It is interesting to note that Babar hunted rhinoceroses on the banks of the Indus, on this occasion near Attock, and later on in the vicinity of Lahore. From Bhira he turned back and returned to Kabul, having been absent some three months on this expedition. A month after his departure the Afghans and Hindustanis marched

against Bhira, and forced the Mughal Governor whom Babar had left to abandon that place and retreat to Kabul.

In September Babar advanced by way of the Khyber pass, to punish the Yusufzais, attacking and plundering the Afridis on the way. **Second and third expeditions.** Having built a fort at Peshawar, he advanced to the Indus, but was then obliged to turn back to quell disorders on the borders of Kabulistan. The following year he advanced as far as Sialkot, but again had to return to repel an invasion from Kandahar, which place he reduced in the course of two years.

In 1524 the disturbed state of Hindustan under the misrule of Ibrahim of Delhi offering a favourable opportunity, he again set out to invade the country on the invitation of envoys from the Afghan nobles of the Panjab. Marching to the country of the Ghakkars, he reduced those turbulent people, but was opposed before Lahore by some of the Afghan adherents of Ibrahim, whom he defeated. He then plundered and burnt Lahore, advancing afterwards against Debalpur, which was stormed and its inhabitants massacred. Having parcelled out the conquered country among his adherents, and so established a firm footing beyond the Indus, he returned to Kabul, and in November of the following year marched on his fifth expedition. **Fourth expedition.**

In November 1525 Babar marched from Kabul, and his army, consisting of only ten thousand chosen horse, proceeded by way of the Khyber pass, while he himself floated down the Kabul river on a raft, employing his leisure in drinking bouts with his boon companions, resting in the shade of pleasant gardens, and composing at times couplets and quatrains. Certainly he was a versatile man, statesman, soldier, sportsman, poet, and wine-bibber, he drank life's cup to the dregs! **Conquest of Hindustan.**

On the 10th December the emperor arrived at Peshawar, in the vicinity of which some good rhinoceros hunting was obtained. Crossing the Indus on the 16th, the invading army marched along the foot of the hills towards Sialkot, and thence to Lahore, capturing *en route* the fort of Milwat, where he found a valuable library, as well as several other forts of minor importance, some of which were taken by forces detached for the purpose. He now marched on Delhi.

Arrived at Panipat, Babar disposed his force for the approaching conflict, having heard that Ibrahim was advancing to attack him with an army of a hundred thousand men, and one thousand elephants. He had a considerable artillery train, under command of a Turk from Constantinople, and he had directed the gun carriages to be connected with twisted bulls' hides, and the intervals between the guns to be filled with abattis and other obstacles. The matchlock men were to stand behind the guns and obstacles, where they could fire in security. The dispositions for the battle were decided upon before the army **Battle of Panipat.**

reached Panipat, and are interesting as showing the Mughal emperor's correct appreciation of tactical principles.

The force was drawn up with the right resting on the town of Panipat, which secured that flank. The front was fortified, and covered by cannon and obstacles, in rear of which the matchlock men and infantry were disposed. The left flank was protected by trenches and abattis, whilst at intervals of a bowshot all along the line spaces were left for men to issue forth for counter attacks upon the enemy.

Ibrahim's army being encamped in the vicinity, was continually harassed by the Mughal archers during the ensuing week, and on one occasion by a night attack made by five thousand men. At length, at dawn on April 21st, the outposts brought in news that the enemy was advancing in order of battle, and Babar at once drew up his army with divisions on the flanks having orders to make a circuit and attack the enemy in rear when he should be sufficiently near, a manœuvre which was carried out successfully. The battle was now joined all along the front, both sides fighting with desperate valour, and the Mughal artillery, which was well served, vomiting forth death into the hostile ranks. The Delhi army appears to have advanced in one mass without order, for in spite of its great numerical superiority, it was hemmed in and its retreat cut off by the superior tactics of the Mughal emperor, who says in his memoirs:—"The sun had mounted spear-high when the onset of the battle began, and the combat lasted till midday, when the enemy were completely broken and routed, and my friends victorious and exulting. By the grace and mercy of Almighty God, this arduous undertaking was rendered easy for me, and this mighty army, in the space of half a day, laid in the dust. Five or six thousand men were discovered lying in one spot near Ibrahim. We reckoned that the number lying slain, in different parts of this field of battle, amounted to fifteen or sixteen thousand men. After routing the enemy we continued the pursuit, slaughtering, and making them prisoners." Thus the fate of India was decided on that historic field, where, or in the vicinity of which, more than one great decisive battle has been fought. Light detachments were at once sent on to make forced marches to Delhi and Agra and seize the forts and treasuries at these places.

A few days later he entered Delhi, and established the Mughal

Reflections.

empire which was to rise to such greatness under his grandson Akbar. In the course of twenty odd years, from being a wanderer on the face of the earth with a few hundred followers, he had carved out for himself a great Empire. Ferishta has some interesting reflections on this event. "This conquest of Hindustan, as Babar himself writes in his commentaries, was certainly superior to that of any former conqueror. Mahmud of Ghazni was not only a powerful emperor, but the country was, at that time, divided into a number of kingdoms, which greatly facilitated his enterprises. Muhammad Ghori brought an army of one hundred and twenty thousand men with him, when the kingdom was not so powerful. The like may be said of Timur,

who ravaged Hindustan when it was torn to pieces by civil commotions. But the army of Babar was but a handful in proportion to that of Ibrahim, who possessed all the countries between the Indus and Behar, and could bring five hundred thousand men to the field; while Babar only possessed the poor countries of Kabul, Badakshan, and Kandahar, the revenues of which were very inconsiderable. To what then can we attribute this extraordinary conquest, in a natural light, but to the great abilities and experience of Babar, the bravery of his few hardy troops, trained up to war for their subsistence, and now fired with the hopes of glory and gain? But what contributed most to weigh down the scale of conquest was the degeneracy of the Pathans, effeminated by luxury and wealth, and dead to all principles of virtue and honour, which their corrupt factions and civil discords had totally effaced; it being now no shame to fly, no infamy to betray, no breach of honour to murder, and no scandal to change parties. When, therefore, the fear of shame and the love of fame were gone, it was no wonder that a herd, without unanimity, order, or discipline, should fall into the hands of a few brave men. This is the general tendency of wealth in all governments, if the reins are not held fast, the laws punctually executed, and the progress of corruption checked both by private and public economy." These are words of wisdom which may well be taken to heart. Two centuries later, the same causes brought about the decay of the Mughal Empire which Babar had now established.

HUMAYUN.

On his death in 1530, Babar was succeeded on the throne of Delhi by his son Humayun, who appears to have resembled him in character with the exception of his bibulous propensities, which he did not inherit. Nine years later Humayun was overthrown by the Pathans, and after a series of vicissitudes he fled to Persia in 1542, and was there well received. In 1545, with a force of ten thousand horse lent him by the Persian monarch, he captured Kandahar, following this up with the reduction of Kabul and Badakshan.

In 1554, being invited by the inhabitants of Delhi and Agra, and taking advantage of the civil wars raging among the Pathans, he resolved to undertake the reconquest of Hindustan. Accordingly he marched from Kabul at the head of 15,000 horse, but himself embarked on a raft at Jellalabad and so proceeded to Peshawar, his army marching through the Khyber pass. The governor of the Punjab fled at his approach, and he entered Lahore in state without opposition. Hearing that a large force had assembled at Ferozepore, he sent a detachment of eight hundred horse to attack them, and although the enemy were said to have numbered eight thousand, they were defeated by the furious onslaught of the Mughal cavalry.

The Pathan emperor Secunder now despatched against the invaders an army of thirty thousand horse, to oppose whom a Mughal force crossed the Sutlej under command of Bairam, and advanced to

meet them. The Pathans were encamped round their watchfires by night on the bank of a river, when a thousand Mughals assailed them with arrows, being themselves under cover of darkness, while the enemy was exposed by the light of the fires. They were thus thrown into confusion, when Bairam, attacking the Pathans on all sides with his whole army, defeated them, and captured all their elephants and baggage. Secunder now took the field himself with eighty thousand horse, a train of artillery, and a number of elephants. The hostile forces met at

Battle of Sirhind.

Sirhind, and after a desperate battle, the Pathans were entirely defeated with the usual great slaughter. Humayun entered Delhi and re-established the Mughal empire which was brought to such greatness under his son Akbar, who, it is interesting to note, distinguished himself greatly in this battle.

Under Mughal rule we find that there were no invasions from the north-west for a period of two hundred years. But as the house of Taimur declined and his dynasty became effete, the empire he founded gradually fell to pieces, and invited fresh incursions from the more virile races of Western Asia.

THE PERSIAN INVASION.

The successors of Akbar did not maintain the honour and glory of the empire over which he ruled. Decline of the Mughal empire. Sunk in indolence and luxury, they neglected the affairs of state, and offered little resistance to the rising power of the Marathas, who invaded their territories and levied tribute almost up to the very walls of Delhi. The irretrievable decline of the house of Taimur may be dated from the accession of the weak and vicious Muhammad in 1718, under whose rule the predatory hordes of the Marathas ravaged the country through Guzrat as far as the banks of the Indus and up to the gates of Agra, although they were defeated in Oudh by Saadat Khan, the subah of that Province. Intrigues also arose at the Mughal court; Saadat Khan and the Nizam of Hyderabad, who was regent of the emperor in the Deccan, but had been called to Delhi, plotting against Khan Daoran, the Captain-General.

In December 1736 Nadir Shah of Persia had marched from Ispahan at the head of 120,000 horse and, moving by way of Karman, had captured Kandahar after a prolonged siege. It was while he was at Kandahar that Nadir Shah received letters from the Nizam and Saadat Khan inviting him to march to Hindustan, and promising to facilitate his advance by all possible means. He accordingly marched first upon Kabul, which place he took, finding all the immense treasure that had been accumulated there since the days of Taimur. We are told that "he set out from Kandahar with an army of 125,000 horse, Kazalbash, Georgians, Turks, Khorassanis, Balkhis, etc., all inured to fatigues and hardship;

Advance of Nadir Shah.



NADIR SHAH
From Malcolm's History of Persia

they were well provided for this expedition, and greatly encouraged thereto by the hopes he gave them, of not only enriching themselves, but bringing wealth and glory to their impoverished country by the plunder of India." Marching from Kabul towards Peshawar, Nadir Shah experienced such opposition from the mountaineers that in seven weeks' fighting during which he lost many killed and wounded, he was unable to force the passes, and eventually had to pay the tribes, who had fortified themselves on the tops of the hills, a large subsidy to allow him to pass without further molestation, after which, leaving his main body to follow, he made a forced march to Peshawar with 10,000 chosen Kazalbash horse, which place he captured after having defeated a force under Nasir Khan. Crossing the Indus near Attock in November 1738, the Persian invader now moved rapidly upon Delhi, preceded by an advanced guard of 10,000 horse, which brushed aside all opposition. Contemporary history gives some interesting descriptions of Nadir Shah and his army. Ferishta tells us that the strictest discipline was maintained in his army, although his method of punishing his high officers was not in accordance with modern ideas. Nadir Shah "had been known to send a mace-bearer to a general, at the head of 5,000 horse, with orders to make him halt and receive corporal punishment for a misdemeanour in front of his own men."

His commissariat arrangements must have been very complete and he had no unarmed followers. One Mirza Zaman, in a journal written at Delhi, says "each horseman had two and some three attendants, grooms, and camel drivers, all robust young men, completely armed and mounted, some on camels, some on mules, and others on ponies, not one in the whole army being on foot, even those who followed the camp and trafficked for necessities to the men were completely armed and mounted, the number of all amounting to near 160,000. In the time of action the master could not be distinguished from the servant, nor the tradesmen and traffickers belonging to the camp from the common soldiers, all in general being bold and resolute and well qualified to execute the most desperate attempt they could be employed in. There were also about six or seven thousand women who had been taken captives from the Turks and in Kandahar, and who on the march could not be distinguished from the soldiers, being booted and armed like the men."

In the meantime, while Nadir Shah was advancing, dismay at his

Advance of the Mughal army.

approach continued to increase at Delhi, until the Mughal emperor

was obliged to rouse himself from his lethargy and take some active measures. Accordingly in February he moved out with a great army amounting to 200,000 horse and foot, and encamped at Karnal in the midst of entrenchments mounted with 5,000 guns. This force was not, however, a disciplined army, but a congeries of elements from different parts of the country, each man doing as he liked, so that, although the Mughal army was numerically superior to that of the Persians, the excellent organisation and discipline of the latter rendered it the much more formidable force of the two.

Meanwhile intrigue was proceeding in the Mughal encampment. Saadat Khan issued forth with 1,000 horse, and, having made a mock attack on the Persians, suffered himself to be taken prisoner. The

Battle at Kurnal.

Daoran Khan had moved out to support him with 15,000 horse, but, being surrounded on all sides, was driven back to camp and himself mortally wounded. The command of the army was then taken over by his brother Muzaffar, who was, however, slain together with 10,000 of his men when he had succeeded in penetrating to the tent of the Persian monarch. A projected attack for the following day was abandoned on the death of the Daoran, who was succeeded by the Nizam. The latter now having the main power of the empire in his hands endeavoured to treat with Nadir Shah for the evacuation of the country, but his designs were defeated by Saadat Khan, who was able to outbid him. The unfortunate Mughal emperor, being helpless in the midst of all this treachery, and finding his supplies stopped and his communications cut, at length resolved to visit the Persian Camp, where he was well received. It is not possible to follow all the tortuous intricacies of oriental intrigue. The two leaders who appeared to be the only honest opposers of the invasion had been slain; the emperor was too weak to effect anything; the Nizam and Saadat Khan were each intriguing for their own ends, to obtain supremacy in the empire.

At length some kind of compromise was effected. The two

Massacre at Delhi.

armies marched together to Delhi, the Persians mounting guard on the seven gates of that ancient city. Disturbances arose, some two thousand Persians were killed in the affray, and Nadir Shah, who had himself been fired on, next day ordered a general massacre. The slaughter continued from eight in the morning until three in the afternoon, by which time 120,000 people had been massacred without distinction as to age or sex. The bazaars were heaped with corpses, and the streets ran red with blood, and to this day, in remembrance of this massacre, the entrance to the Chandni Chauk is known as the gate of blood. The slaughter ceased only on the entreaty made by the Persian monarch's minister, at the instigation of Muhammad. Plunder succeeded, and it was not until May that Nadir Shah marched back towards the west, taking with him booty valued at eighty millions sterling, and having ceded to him all the provinces beyond the Indus. Before his departure he warned the emperor against the treachery of the Nizam, saying "Had not I foolishly passed my word for his safety, the old traitor should not live to disturb Muhammad."

THE INVASIONS OF AHMAD KHAN.

Misrule, intrigue and invasion, not only from the north-west, but by the Marathas from the south had shaken the Mughal empire to its foundations; but the tottering fabric was still to receive another blow from beyond the Indus before it finally crumbled into dust on the establishment of British power.

There was in the service of Nadir Shah a native of Herat named Ahmad Khan employed first as a mace bearer and subsequently as treasurer. When the Persian monarch was assassinated, Ahmed Khan succeeded in carrying off three hundred camel loads of treasure to the mountains of Afghanistan, where this wealth eventually enabled him to establish the Afghan empire in the countries formerly held by the kings of Ghazni.

In 1747, seeing the declining state of the Mughal empire, Ahmad

First invasion.

Khan invaded Hindustan at the head of 50,000 horse, and advanced some twenty miles beyond Sirhind where the imperial army of Delhi was drawn up to oppose him under the vizir Kamruddin and his son Mannu, together with the Mughal Emperor's son and Safdar Jang, viceroy of Oudh. The two hostile armies remained encamped opposite each other for a month, when the Vizir was killed by a round shot from one of the Afghan cannon. Next day the Mughal army advanced to attack their enemies, the body of the vizir being placed on his elephant in the line of battle, and the fact of his death being concealed, lest it should demoralise the troops. The battle was a stubborn one, but eventually the invader's entrenchments were trodden down by elephants, and the Mughals poured into his camp. But the victory was not yet won. The prince of Ajmere, finding that the vizir was dead, fled from the field at the head of his twenty thousand horse followed by Safdar Jang, and Ahmad Khan restored his line of battle. But Mannu, the vizir's son managed to recall the fugitives, sending them a message that the Afghans were defeated. He then drove the enemy from the field, and pursued them for ten miles.

But Ahmad Khan was a soldier of no common type—a skilful and undaunted general. Riding through the ranks of his troops with drawn sword he restored order, and when next morning the Mughals issued from their camp to pursue the enemy they found him again drawn up in line of battle. On the third day another action took place, in describing which the historian makes some interesting remarks regarding irregular armies. "Though irregular armies of horse make little impression upon a solid body of well disciplined infantry; yet when they engage one another upon equal terms each trusts to the strength of his own arm, and the battle is in general extremely bloody. This irregular kind of attack, it must be allowed, requires a greater degree of personal courage, where man to man is opposed, than to stand wedged in a close battalion where the danger may indeed be as great but not so apparent." In this battle Ahmad Khan was again defeated, and pursued across the Sutlej: but, recovering himself, with astonishing intrepidity he repassed the river next day, made a forced march in rear of the Mughal army, and moved straight upon Delhi. Being persuaded, however, of the danger of leaving an undefeated army in his rear, he retraced his footsteps and retreated to Lahore. Meanwhile the emperor Muhammad died and was succeeded by his son. The Mughal empire had greatly declined.

Its strength was sapped by repeated incursions of the Mahrathas ; the Nizam established an independent state in the Deccan ; Bengal, Guzerat, and Ajmere were also dissevered from the territories of the house of Taimur. But on the banks of the Indus the gallant Mannu maintained a successful war against Ahmad Khan, from whom he recovered the whole province of Lahore. On the death of Mannu in 1754, Ahmad Khan again advanced, and recaptured Lahore.

Factions at the court of Delhi caused the emperor Alamghir in 1757 to invite Ahmad Khan to support him, whereupon the Afghan king marched to Delhi with a great army, and entered the city unopposed, laying it under contribution for a crore of rupees. On his return march he took Muttra by assault, but was repulsed at Agra, after which he "spread death and devastation through the territories of the Jats, who, unable to cope with him in the field, had retired into their strongholds ; from which they at times issued and cut off his straggling parties." Affairs in Kabul demanding Ahmad Khan's return, he marched out of Hindustan in 1758.

He marched from Kandahar to Delhi again in 1759, and remained there or in the vicinity for two years, when, the people revolting under the exactions of the invaders, a general massacre took place, and a great part of the imperial city was reduced to ruins. The Marathas were now advancing with 200,000 horse, and Ahmad Khan assembling all the Muhammadans to the number of 150,000, evacuated the city, crossed the Jumna and encamped on the opposite bank, whilst the Marathas entered Delhi, and pillaged what little there was remaining.

The two opposing armies now marched up the Jumna, and the Marathas entrenched themselves at Karnal, where the Muhammadans succeeded in cutting off their supplies and so forced them to action. The Marathas began the battle with a furious charge, and had nearly driven Ahmad Khan from the field, when ten thousand horse under the famous Shuja-ud-Dowla charged them in flank, and turned the scale of victory. The Maratha chiefs were nearly all slain and were pursued for three days after the battle, having lost in all over fifty thousand men. Ahmad Khan soon after returned to Kabul, and thus terminated the last invasion of India from the north-west.

There are many lessons to be learnt from these campaigns—political, strategical and tactical. The former have perhaps been sufficiently indicated. The strategy of Alexander who, marching across Asia subdued the countries he traversed, and secured his line of communications, may always be taken as a model of Asiatic conquest and of the correct principles of the art of war. His reduction of the tribes on the flank of his advance into India embodies another principle whilst his retreat furnishes a historical example of the co-operation of land and sea forces which we may well bear in mind. As a tactical example his passage of the Hydaspes in the face of an enemy encamped

on the farther bank of the river may be taken as an instructive instance of the manner in which such operations should be carried out. From the invasions of the hordes of Central Asia there are also valuable lessons to be drawn. It would be interesting, for instance, to institute an enquiry as to the manner in which these invaders managed to feed their myriad horses and their men. From the contemporary descriptions of the manœuvres of the Mughals we can learn much of the tactics which were adopted from them by the Cossacks, and are now well known to all military students as the Cossack lava.

The past history of India and its invasions is full of warning to the nation that this day dominates the country from the Himalayas to Cape Comorin. Generally speaking, with some intervals of independence, history teaches us this—that the Power which has held Central Asia and Persia has also conquered and established its rule over India. From the time of Darius to that of Nadir Shah, far as we can look back into the dim vista of the past, we see a line of kings holding sway over the country from the Euphrates to the Jumna. History is repeating itself, and the tide of invasion is ever advancing from the north-west, slowly indeed, and with no sudden inrush like that of Alexander, of Tamerlane, or of Babar, but all the more surely from the very tardiness of its progress. Already the incoming waves of the tide can be heard lapping with ceaseless murmur upon the western confines of our Eastern empire.

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For details of Alexander's route I am greatly indebted to Mr. W.G. M'Crindle's Translation of Arrian and other ancient writers, which contains most valuable notes.

I have also availed myself of the information contained in a lecture on Alexander's invasion, delivered in this Institution by the late General Sir George Chesney.

BY LIEUT. R. F. W. ASHWORTH 5TH DRAGOON GUARDS.

The present seems an appropriate time for the discussion of such questions connected with the British Cavalry in India as will probably not be dealt with by the Committee which it is understood is considering armament, saddlery, load on the horse, etc.

Drafts.—The first point which suggests itself is the system under which drafts come from home. Neither the plan of having a small depot for each regiment at Canterbury nor that of drafting men from regiments at home is considered satisfactory by cavalry officers. The latter strikes hard at *esprit de corps* and discourages officers in depriving their own regiments of men to whose training they devote time and trouble. It appears to have been introduced to enable every eligible man to be taken for foreign service and thus impairs the efficiency of regiments at home. It should not therefore be continued on that account. It is sufficient, however, from the point of view of regiments out here that the system does not meet Indian requirements so well as that of drawing men from some portion of the same regiment at home. The depot system as hitherto tried is also unsound, the strength of the depots being too small and the training very imperfect. Yet, changes and reversion to the depot system indicate that there is something sound in its principle. The solution of the problem appears to lie in the provisional regiment system under which depot regiments might be composed as during the war, of the depots of two regiments abroad. This system produces excellent results, the men being trained under officers of their own regiments for their own regiments, while a permanent commandant and regimental staff ensure satisfactory administration. A regiment out here would need to have from 250 to 300 men at home, none under 18½ years of age being enlisted for regiments in India. Though it has nothing to do with India it may be pointed out that these depot regiments would not be wasted at home as they could appropriately be detailed to brigade with yeomanry in war. Any men in home depots in excess of numbers required for India might be sent out in relief of men "extending" after 6 years in the country or who needed a change.

Questions of recruiting at home make this a most difficult problem but even from a home point of view it must be convenient, when a regiment returns from foreign service to have 200 or 300 men ready to meet the loss by transfer of '7 years' men' to the reserve and to help make it up to the home establishment of over 800.

In short, the plan advocated is "second battalions" for regiments abroad, and though it involves an increase in the establishment of mounted men, yet the gain in having 8* depot regiments at home, each capable of turning out 400 sabres is not inconsiderable. The objection may be raised that men eligible for India

9 regiments in India.
6 " " South Africa.
1 regiment " Egypt.
—
16+2=8*

might spend all their service at home in the regiments on the home establishments. The answer to this seems to be that if we are only to have 12 line regiments at home in future it is essential they should retain their best men.

Strength of regiments in India.—The experience of recent campaigns indicates that a much greater wastage in men must be expected than appears to be at present anticipated. With an establishment of 597 warrant, non-commissioned officers and men a regiment is required to turn out 467 strong for service. This can be done, but it is quite impossible with the present establishment to provide reinforcing drafts from the depot in India to replace casualties and sick to the extent which would probably be necessary. Out of a strength of 130 men the depot duties would absorb about 20, another 40 may be put down as sick or unfit, and 20 on detached duty, prison, etc. This leaves only about 50 men available to reinforce the regiment in the field. Wastage there may be estimated at 10 a week, so that the depot could only feed the regiment for about 5 weeks after which the latter would dwindle down in a way most discouraging to every one concerned and such as would in a few months reduce brigades to regiments and the latter to squadrons, exactly as 45 years ago the Light Brigade was made up of several regiments. Then again, all the men in the field are not effective sabres in the fighting line. Many are swallowed up to

† It is understood that employment of these in India has been decided upon, lead ammunition pack horses† as baggage guards to lead pioneer horses, as camp colourmen, orderlies, signallers and what not, all of which greatly reduce the fighting and manœuvring strength at the best of times. The fighting strength is the regiment's real strength after all, and two courses are suggested in order that this may be kept as high as possible. First, in order to ensure a regular flow of men to the front it seems imperative to augment the existing regimental establishments by 100 men. This would enable drafts of, say, 20 men to be sent up every fortnight for 3½ months, by the end of which time many of the invalided men would be again fit for the field and so keep up the flow.

It may be urged that in time of a serious war in India men would be available from other sources, *vis* (a) home, (b) colonies, (c) regular regiments left in India. As regards the first it is believed that the Royal Navy declines to escort transports in time of war to the detriment of its primary duty of finding and fighting the hostile fleets. This also applies to colonial reinforcements who, though more easily available, would probably be organized in special corps and not be used to make up regular regiments. As regards (c), it would be inexpedient to break up the regiments detailed for obligatory garrisons, as they would have an important role in maintaining our hold on the country and, no doubt, be in any case called upon to furnish maxim gun and signalling detachments, telegraphists,

transport assistants, etc. There seems therefore nothing for it but to augment the regimental establishments, and this involves a question of expense. It is not within the scope of this paper to discuss this aspect. It is, however, probable that it would be an advantage to dispense with one British cavalry regiment in order to augment the remaining eight to the extent necessary. There would be no loss in strength in the country, on the contrary there would be more men and they would be distributed to the greatest advantage, as some half dozen regiments will be in South Africa in future the two countries will be mutually supporting in the event of war with a non-naval power or, perhaps, Russia if unassisted by France.

Horses.—An increase in the number of men involves an increase in that of horses. Of these, 80 more would be sufficient in addition to those required as ammunition pack horses and as suggested in the next paragraph.

Drafts to the regiments in the field could thus take horses with them. If necessary on grounds of expense the extra horses might be counted in reduction of the reserve maintained by the Remount Department. It would be more sound, of course, for that Department to augment its reserve in consideration of the additional horses allotted to regiments.

Native establishment.—The next suggestion is that a certain number of natives (fighting men) should be added to each regiment in order to release men employed on service as baggage guards and in leading ammunition pack horses. For the former purpose 20 might be allowed and for the latter 16—total 36, or, allowing for sick, etc., 40. These men to serve under the same conditions as native drivers in the artillery. It would be desirable to mount the men, to arm them with the carbine only and to look upon the horses of those detailed for baggage guard as a reserve for the regiment as the men could discharge their duties efficiently on foot. The regiment would thus have a reserve of 20 horses available immediately. Adding the above horses to the peace establishment would make it 525 + 80 + 32 for ammunition and men leading + 20 as above total 657 to 737 fighting men British and Native.

Squadrons.—It seems advisable to retain the four service squadron system, as although five squadrons are now allowed at home there are practically no recruits out here and the former plan meets the case.

Brigade organization.—It seems absolutely necessary to bring Indian organization up to that at home in the matter of cavalry brigades. It is unnecessary to dilate upon the necessity for such system and it will, therefore, merely be pointed out how it can best

be carried out. It is suggested that the four cavalry brigades of the field army should be concentrated at four selected stations such as Rawal Pindi, Umballa, etc., the composition of the brigades being 1 Battery, Royal Horse Artillery, 1 British and 2 Native cavalry regiments. Each brigade to be commanded by a brigadier-general with a staff captain (seconded) as his staff officer. These Brigadiers to have nothing to do with correspondence and administration, merely dealing with the brigades as regards drill and manœuvres. The four Brigadiers between them perform the duties of cavalry inspection officers for the remaining regiments in India (the 12 regiments of their own brigades not needing inspection), the Inspector-General of Cavalry, whose duties are not largely administrative, being abolished. The above proposal involves expense which could be met from the saving effected by the withdrawal of the 29 officers belonging to the regiment by which it is proposed to reduce the Indian garrison.

Equipment.—(a) It is suggested that ammunition pack horses, being comparatively lightly laden, should carry something strapped on top of the saddle *e.g.* the four horses of each squadron might severally carry a heavy pick, shovel, light crowbar with flat head (to act as hammer for heel pegs), a good telescope and stand (in two squadrons a heliograph).

(b) The next suggestion is that a large proportion of men (or horses) should carry some special article of equipment, being trained to its use when necessary, so that no matter what men became casualties, no matter how small a party were detached it would not lack in essentials. Such are signalling flags, heliographs, lamps, binoculars, range-finders, breast harness, wirecutters, etc. A party of, even 1 non-commissioned officer and 3 men ought to include a fairly competent flag signaller, also a man with a field glass. This involves a large increase in such equipment and more general training in signalling. A regiment needs not only a few expert signallers but a fairly large number of men in the ranks who can send and read a flag message, however slowly. This would save much horseflesh and in a semi-mountainous country be simply invaluable.

(c) The next suggestion is that Trumpeters should carry light telescopes, and the last is—

(d) That ammunition on pack horses should be accessible without unloading the animals *i.e.* boxes of special pattern should be used.

INDIVIDUALITY AND INVISIBILITY IN UNIFORMS.

By E. C. A.

We are all familiar with the measures taken after the opening stages of the South African War to remove from the uniforms of the army in the field all badges, buttons, etc., which by their glitter might betray, when scouting or skirmishing, the presence of their wearers to the keen-eyed enemy.

Recent orders in India for the abolition of coloured putties and kullas in the field service kits of Native troops seem to indicate that in future the faces of the Empire will present a monochrome of the tint long well known in this country, and since the South African War to the whole world, as Khaki.

It is a fear that we may perhaps be, according to our usual habit, again carrying a good general principle to unnecessary extreme in detail, that makes one desirous of suggesting for consideration the following points—

- (1) is khaki the best possible colour for our uniforms ;
- (2) if so is it necessary or even desirable that a service kit should be throughout all one colour.

Every practical soldier recognises that (1) whereas inconspicuousness in our fighting kits was formerly a luxury, it is now a necessity, (2) that formerly the chief desideratum was protection for scouts, skirmishers, ambuscading parties, etc., working at close ranges, who would, of course, be taking advantage of all natural cover, while now it is also necessary that larger bodies of men moving in more or less close formations should afford as inconspicuous a mark as possible to long range artillery and rifle fire. This is probably the reason why the majority of the light "troops" of both French and English armies of the Peninsular period were dressed in green, a dark jacket being far less conspicuous in wooded or rocky ground than one of any lighter shade. The modern war correspondent writes of khaki as if it were a sort of magic cap conferring absolute invisibility at all times and places upon the wearer, whereas in reality khaki uniforms are just as dependent for their invisibility up to distance of a mile and-a-half or so upon the back ground as are those of any other colour. During the operations in Tirah Maidan it happened one day that one brigade of the force was foraging among the grass on south side of the main valley while a second was carrying out a reconnaissance on the mountains to the north. I was with a picquet of the former brigade; the distance from my picquet to the crest line held by the majority of the second brigade could not have been less than 3,000 yards, yet the troops along it were clearly visible to the naked eye, and with

glasses one could count the men of every company of two regiments strung out just under the sky line, so clearly were the khaki uniforms defined against the dark granite of the hillsides. It was a matter of common remark that our khaki was not nearly as good a colour on those hills as the mouse-coloured puggaris and plaids of the Afridis. Ask any experienced shikari if he wears khaki when out stalking; the almost invariable answer will be, "oh no, I wear so and so," naming some material which may vary in colour from the brownish green of "shikar cloths" to the blue grey of puttee as the fancy of the wearer or peculiarity of his shooting ground may dictate, but they will all have one common quality; there will be a soft blending of shades which will make it hard to say exactly what the colour is.

Khaki no doubt blended excellently with the general colouring of the veldt, as it would blend with colour of the ground wherever cultivation is absent in the country stretching from Pindi to Nowshera and southwards along the Indus to Karachi, the land of its birth; but on the granite mountains of Sufed Koh ranges or the forest-covered hills of the eastern frontier it would frequently contrast sharply with its background. Troops when manœuvring in the neighbourhood of our cantonments are as a rule kept strictly to wastelands. On such wastelands in Northern India khaki is seen at its best, but in war tatical operations will have a tendency to centre round localities where water and forage are readily obtainable, that is, in India, about the towns and larger villages which have naturally arisen in the centres of well-irrigated and well-cultivated tracts of land.

I think everyone will agree that nature knew what she was about when she gave her wild animals their coats. It is certainly amazing how many large animals seem to be equally inconspicuous in all manner of varied surroundings, and yet I can think of only two animals dressed almost completely in a shade which approximates to khaki, the chinkara and the doe antelope*. The chinkara lives for the most part in dry raviney country and his coat which, however, is a good deal dingier in shade than the majority of our khaki, serves him fairly well, but he is very easily spotted when he ventures out into the fields to feed. The antelopes afford a rather striking illustration of the limitations of khaki. No one can have failed when passing by train through buck country to notice how plainly the 'blackbuck' shows up in comparison with the khaki coloured doe on the open grass plains which the herds frequent in day time, but let the observer stalk blackbuck in broken scrubby country or in the dusk of early dawn or evening and he will find that the buck is very often the harder of the two to 'pick up.' The conclusion I wish to suggest is that a monochrome of khaki in our uniforms is not infallible antidote for visibility, and if advantages can be shown for retaining small variations of cut and colour in the uniform of different corps, inadvisable.

* **NOTE.**—The examples given are not, however, conclusive. Neither the gazelle nor the doe antelope has a uniform coloration. The former is furnished with dark flank stripes and the latter with light ones, whilst both have white bellies. This variation from a uniform tint serves for protective purposes to the animals amid their natural environment.—*Secretary, United Service Institution of India.*

Apart from the question of the 'protective colouring' of a uniform there is a strong argument against all corps being clothed exactly alike in the likelihood of confusion and delays arising on service from the impossibility of rapidly identifying units from even a short distance.

During the recent operations in Waziristan I happened to be with a force, which was composed of portions of seven regiments; of these regiments—

No. 1 still wore a coloured kullah.

No. 2 wore black puttis and black equipment.

No. 3 wore black puttis and brown equipment.

No. 4 wore black equipment, but being an entirely different class of man to No. 2 were easily distinguishable.

Nos. 5, 6, 7 wore khaki puttis and brown equipment, there were, however, slight differences in their clothing, which would be sometimes recognised through a glass, Nos. 6 and 7 could also be differentiated at close quarters by different colour of their 'pugs.'

These regiments could thus all be distinguished one from the other; and of the value of this I should like to give a couple of examples.

It chanced on one of the raids to be part of my work to see the regimental transport down from the bivouacing grounds into their proper place in the line of march. After seeing my own particular charge into its place, or when it was necessary to get other units into their places before we could get ours, I used to assist the rather overworked Supply and Transport Officer, whose duty it was to get off the lot, to marshal his somewhat unwieldy crowd. The baggage guards being easily recognisable it was a simple matter, as the baggage streamed down to the nullah from the bivouacs on the hills, to catch the one required and to hold up other streams from cutting in until their proper turn; moreover any fairly intelligent person coming down to the nullah had a chance of identifying corps already in position or on the way down, and so perhaps of selecting an easy line to his place in the column. But if the baggage guards had all been dressed exactly alike, one would probably have had to get to each one for the purpose of verbal enquiry, a difficult and tedious matter in a crowded nullah, not to mention that such numbers as 24, 26, 27, 37, 25, 50 blurted through the beard of a half awake Sikh or spoken by a young Pathan struggling with a foreign and but recently acquired language would probably be with difficulty differentiated by a transport officer fresh from a British regiment. Again suppose the usual trans-border general action to be in progress, a column of troops and baggage retiring down a nullah covered by a rear-guard, pickets all along the hills 1,000 feet or more above the bed of the stream, and an active and watchful enemy pressing sharply on the flanks and rear, and keenly on the look out for an unmarked sniping position or some small unsupported party. It is the business of the rear-guard to see that each picquet gets down; each picquet has to see that the

picquets in front are clear and the rear-guard through before it leaves its post. The best line of retirement for picquets is very frequently not straight down to the nullah, but diagonally along the slope, and from the time they leave their posts until they cut in behind the rear-guard they are continually disappearing from view of both the rear-guard and the picquets further down. As there may be three or four such parties on the move at the same time, it considerably simplifies the calculations of each picquet commander and of the officer who may be responsible for half a dozen picquets, and to some extent those of the rear-guard commander, if he can identify quickly the corps to which parties moving down the slopes or along the nullah belong. If it be borne in mind that the successful conduct of operations across the border depends very largely upon the withdrawal of these picquets being correctly timed, that staying on too long is likely to be only one degree less disastrous than leaving too soon, and that at the best it is far from being an easy calculation, anything that will assist those responsible is worthy of consideration.

A man has frequently to be sent with orders to a party whose exact position is not known; on bad ground it may save an hour, under heavy fire it would not improbably save a deal good more in the time the order will take to reach its destination, if the messenger can pick out the particular party he wants to reach from a distance of half a mile or so.

When a body of troops is working in broken country on a wide front it is certainly a convenience to officers commanding units to be able to identify small parties appearing on elevated or open spots as belonging to particular units without having to resort to flag or helio, and I should imagine that it would tend equally, if not more, to the peace of mind of the brigadier, probably watching operations from some commanding position in the rear. In camp too it is of great assistance to officers who have to find particular units or superintend the carrying out of orders and regulations to be able to rapidly identify individuals or detachments as belonging to certain units. There is another reason for avoiding a dead uniformity in uniforms which I advance with extreme diffidence, as in this utilitarian age I am afraid that it will meet with scant consideration, but it is certainly a fact that men undoubtedly often have a great affection for some peculiarity in their kits, this individualising mark may perhaps be the memento of some hardly-won victory or special service rendered by the regiment in the past. But whatever its origin, the feeling with which it is regarded is always a sign of the pride which every good soldier feels in his corps, and the laudable desire to be easily recognised as belonging to it.

I will now take in detail some articles of kit which have up to date been worn in our service, and which, while helping towards one desirable quality in a uniform, *i.e.*, to a certain extent individualising corps, are as I believe from observations actually made on

service and experiments in peace at the least absolutely harmless as far as the desired quality of inconspicuousness is concerned—

- (1) differences in cut of clothing and method of tying safas, etc., make of course no difference in the second, while they assist the first, and I only mention them as a recent circular seemed to threaten us with an universal pattern of coat for the whole Native Army.
- (2) black accoutrements are just as invisible as brown at long distances. At closer ranges, especially on broken ground, black belts on khaki uniform harmonising better with natural light and shadow, are the better. Black accoutrements appear if any thing to keep serviceable longer in peace time than brown ones.

Black puttis.—At long distances 1,500 yards or over a whole regiment wearing black puttis even on very bare and open ground does not appear to show up more than one wearing any other colour. On a stoney hill-side the advantage lies with the black putti, more especially as a large number of puttis passing as khaki are really light gray, and in some cases, almost white.

Brightly coloured kullahs are, I think, liable to show up rather badly, but the sharp outline of the kulla itself will always tend to make it the most easily distinguishable article of our uniform, and the same may be said of the crown of the present regulation helmet; neither are in any danger of being mistaken for a stone.

I hope that what I have written may induce consideration of the question, whether a completely khaki kit will give us all that is obtainable in the direction of 'defensive colouring' in our uniform, and of the distinct disadvantages of any dead uniformity. Personally I think that the most exhaustive series of experiments would go to prove the theory deduced from a study of the colouring of wild animals that a body whose general colour scheme harmonises with the light and shadows which are present on all except the barest and most level ground is less readily visible than a figure entirely in one shade of colour unless this shade happens to be exactly that of its background. The combination of colours on the skin of a tiger looks glaring enough at a couple of yards, * at a couple of hundred on most ground they won't afford a much better, if as good a target as the khaki of a doe antelope.

If the army cannot imitate the sportsman and change its clothes according to its hunting ground, and it seems unlikely that we should be able to find any colour or combination of colours which will at all times give equally good results, I think we might do better than some of our present 'Khaki'. There is a great deal too much whole colour about it; some patterns are glaringly yellow, and some have a smooth shiny surface which looks very nice when newly washed for orderly works in cantonments, but catches the sunlight badly on a hillside. The quality required is an indefinite shade which will avoid

* *Note.*—In the light and shadow of long grass a tiger is frequently invisible at a few yards' distance.—*Secretary, United Service Institution of India.*

a too striking contrast with any one colour, and if this is observed I believe there are half a dozen 'compounds' which would give equally good results.

Since the greater part of the article was written I have read an account of some experiments with guns painted in rainbow stripes which if true seems to indicate that further experiments might lead to somewhat revolutionary changes in our presents ideas of protective colouring.

254 LITTERS FOR CARRYING SICK AND WOUNDED.

BY MAJOR W. KIRKPATRICK, D. S. O., 1ST PUNJAB INFANTRY.

(1) *Chair-Litter*.—For use in hill-warfare for carrying sick and wounded down to the "Dressing Station" or point where ambulance transport is obtainable.

Materials required for construction :

1. Two poles, each 5 feet long (preferably of male bamboo 4 inches in circumference).
2. One "gunny" (ration) bag, folded double and sewn, to form a seat 19 inches square.
3. One cross strut of metal to keep the poles apart and the seat taut.
4. Four shoulder braces of country webbing " (newar) "—these braces can be lengthened or shortened at will by the bearers, to suit their height and length of arm.
5. Two side pieces of newar ; sewn to them are 2 transverse chest and back pieces ; the injured man is then supported on all sides. The newar side pieces can be lengthened or shortened as required so as to support and retain the injured man properly during either ascent or descent.
6. Four strips of sheepskin (sewn inside shoulder braces) to save the shoulders of the bearers.
7. One newar stirrup.
8. Two newar "tags," or attachments, to secure wounded man's rifle.

Advantages of "Chair Litter" as compared with present patterns of stretcher Mark 1 and Blanket Stretcher, are as shewn below :

Chair-Litter.

Weight = 8 lbs. Length of poles = 5 feet. Materials cheap and obtainable everywhere. When not in use, is rolled up and carried slung across the back, leaving both arms free to use the rifle. When in use and loaded, is carried by two soldiers. Peasants and unskilled labourers, both in India and at home, adopt this "handbarrow" system when lifting heavy loads of earth, stones, bricks, etc..

Takes 2 fighting men to lift it, instead of 4 as at present.

Mark 1. Stretcher and Blanket Stretcher.

Weight from 15 to 25 lbs Length of poles 8½ feet. Materials more costly and less readily obtainable. Weight and length are such that the soldier carrying it cannot use his rifle. It makes a cumbersome load. Untrained "bearers" find it most difficult to carry and retain a wounded man in the stretcher, especially on a steep hillside. The kahar or trained "bearer" is the only man who has the "shoulder" and the training necessary to carry a shoulder pole successfully. Offers a large mark to the enemy's snipers and denudes the firing line of 4 rifles whenever a wounded man has to be carried.

(2) *Sling Chair*.—For use in carrying wounded back from the firing line to the "Dressing Station" or point where ambulance transport (dandies, etc.) are available. This chair is not as well suited for hill work as the "chair-litter," but would be better than nothing at all. As it is very light (4½ lb.), one or two such chairs could be sent with



Chair-litter Fig: N°1.



Chair - litter Fig: N° 2.



Sling-chain Fig: N° I.



Sling-chair Fig. N° 2.

every hill piquet or party detached liable to find themselves with a sick or wounded man on their hands and no dandy or stretcher within reach.

Materials required for construction :

1. Two poles (bamboos for choice) each 2 feet long.
 2. Ration (gunny, bag one bag) seat 19 inches square.
 3. Two shoulder braces of "newar," with transverse chest and back pieces, and arm pieces connecting the two latter.
 4. Two bamboo handles, connected with the seat by rope lacing.
 5. One "newar" stirrup.
 6. Four strips of sheepskin (sewn inside the shoulder braces) to save the shoulders of the bearers.
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NAPOLEON AS A GENERAL*

BY HISTORICUS.

(Concluded from last issue.)

IX.—THE ARRAY OF NATIONS—RUSSIA.

There now remained but few countries in Europe that had not shaken with the tramp of Napoleon's armies; and none of the first rank save Russia, against which he was about to advance, leading the array of captive nations in his train. There can be no doubt that he looked beyond the Western Continent into the glamour of the East. The history of the ancients always possessed a great attraction for him, and he had studied the campaigns on the Euphrates and against the Parthians—the wars of Crassus, Antonius, Trajan and Julian. But his dreams of oriental empire were destined to be quenched for ever in the snows of Russia.

Whatever may be said with regard to his previous campaigns, there can be no doubt that Napoleon undertook this war solely from love of war and conquest. He had for some time been contemplating it, and in May 1812 his army of 475,000 men, in the ranks of which were represented nearly all the nations of Europe, was assembled on the Vistula. The Emperor's first care was for his commissariat, knowing that in the comparatively barren country through which his myriad army was to pass there would be a considerable lack of supplies, and his intention was, as he said, "to concentrate 400,000 men on one point." From its position on the Vistula his army threatened a great extent of frontier, to guard which the Russians were obliged to separate their forces. His plan was, as usual, simple and effective. He designed to penetrate the Russian line strategically, by marching on Vilna, and to beat in detail their separated forces, moving with the mass of his army collected upon one line of operations. "This simple thought" says Count Yorck "gave to his successes their certainty and magnitude."

On June 24th, 1812, he crossed the Niemen, entered Russian territory, and marched on Vilna, the first objective of the campaign. But having reached that point, he did not carry out his plans with his

* *Napoleon as a General.*—By Count Yorck von Wartenburg. London—Kegan Paul Trench, Trubner & Co. Ltd. [2 Vols.]

usual energy, and Bagration, who commanded one of the separated Russian armies, was suffered to escape. This failure may be ascribed partly to a decline in the General's energy due to physical causes, and partly to his having put his incapable brother Jerome at the head of three army corps, simply because he was his brother, thus departing from the principle on which he had hitherto acted in making appointments in his army, which had enabled him to say—"I feel that in the army there are no princes. There are men, officers, colonels, generals, and there is the commander-in-chief, who must be more capable than all the others and stand far above them." Too late he placed Davout over Jerome, whose dilatoriness had already enabled Bagration to escape. On 24th July, moving towards Vitebsk, the main army crossed the Dvina at Bieshenkovichy,* which Napoleon made his head-quarters during his superintendence of the passage.

Arrived at Vitebsk, the Emperor found the Russian army in front of him, but hesitated to attack, and so the opportunity of the campaign was lost. He appeared to have declined in both physical and mental energy. He had crossed the Niemen with 363,000 men on a front of 72 miles. He had now 229,000 on a front of 150 miles from Polotsk to Mohilev. In five weeks he had advanced 214 miles at a cost of one-third of his strength. He had been so far unsuccessful, for the junction of the two Russian armies under Barclay de Tolly and Bagration could not now be prevented, and took place at Smolensk on August 1st. Smolensk, enclosed by turreted walls, stands upon the bank of the Dnieper. It was here that Napoleon hoped to bring the enemy to bay and fight that battle for which both he and his army were eager. On August 9th there was a skirmish between picquets, but the hostile armies lost touch. Napoleon failed in an attempt to capture Smolensk by storm; Bagration set fire to the town and retreated further on the Moscow road, halting on September 5th to give battle at Borodino. It has sometimes been said that Napoleon should have stopped at Smolensk, there to await the enemy's approach. But, as Count Yorck points out, such a course would have been tantamount to a confession of failure in the eyes of conquered Europe, whilst it would also enable the enemy to assemble and organise his illimitable resources, and so render uncertain the result of the collision. On the other hand, it might be expected that the advance on Moscow would force the Tsar to sue for peace, whilst, failing that result, Napoleon hoped to be able to maintain himself at the Muscovite capital, an elusive hope indeed, in view of the immense length and vulnerability of his

* In January 1893, when following the track taken by the Grand Army, I stayed a week in Count Bouteneff's house at Bieshenkovichy, which Napoleon had made his head-quarters. There was in the house an old servant, over 100 years of age, who well remembered the coming of the Grand Army, and related how Napoleon had given a dinner-party in the great hall of the house to a large company of officers. I occupied the room in which the Emperor had passed the night, whence there was a clear view across the Dvina. At Ostrovno, in the vicinity, I saw some batteries and earth-works that had been constructed by the French — *Historicus*.

lines of communications—550 miles long. In briefly viewing the situation, we may note the following:—

1. Napoleon crossed the Niemen along the line Kovno—Grodno with 363,000 men.
2. He reached Vitebsk with 129,000 men.
3. He began operations against Smolensk with 185,000 men.
4. He left that town with 156,000 men.
5. He arrived before Borodino with 134,000 men.
6. He reached Moscow with 95,000 men.

We have seen the failure of the Emperor's designs from a strategic point of view. The battle of Borodino was to exemplify his tactical failure, perhaps partly due to physical disabilities, but partly also to an apparent timidity in risking all for decisive results which was new to the conqueror of Europe.

In the first place, Borodino was a frontal battle, and Napoleon made no attempt at a turning movement, without which the action could have no decisive result. In the second place he failed to throw his reserve of the guard into the battle at the critical moment, thus departing from the maxim embodied in his own words—"Generals who save up troops for the day after a battle are always beaten." On the day after Borodino, we are told by Constant, he "seemed overwhelmed by fatigue; from time to time he clasped his hands violently over his crossed knees, and I heard him frequently repeat, with a sort of convulsive movement: "Moscow, Moscow!" The following remarks are of interest in view of the modern conditions and requirements and often-repeated query—whether a Napoleon would be possible in our time? "The changed conditions which the French Revolution introduced into the art of war, as compared with those of the 18th century, were fully recognised by Napoleon and carried into effect in his strategy. But with the subsequent changes created by Napoleon's strategy itself, in its prosecution of the principle of employment of masses and of great national wars, Napoleon's army organization did not keep pace; for organization is the work of peace. It is only the Prussian army which has fully learnt the lesson of the conditions created by Napoleon's strategy, and their effect on the constitution of armies. It has adopted the formation in peace time of a numerous war reserve, the axiom of modern army organization, founded on universal military service, thorough preparation in time of peace for mobilization, strict regulation of the system of commissariat and transport service, with complete utilization of the progress of modern science, and lastly the General Staff. In the modern acceptation of the term, it is true, Napoleon laid the foundation of it, but as he kept the conduct and arrangements of operations in all their details exclusively in his own hands, his staff, having only to express and formulate his ideas, had but little influence upon the success or failure of the operations; the great military names in Napoleon's army were not responsible

for either. But the increase of the armies of modern times and the complicated development of military science seems to render it almost impossible for any one individual, in our time, to keep every thing in his hands in the way Napoleon did. Here also, as in so many other branches of modern life, the increase in the amount of work must be met by a division of labour."

As in the domain of strategy—so with tactics. Napoleon, standing on the heights of Austerlitz, was able with eagle eye to take a comprehensive survey of the battle, to direct its course, and to choose the moment for deciding the victory by launching fresh troops into the fray. But over a battle field many leagues in extent, the commander will in our time no longer be able to hold tactical command on the field. He can only make general dispositions, and leave the rest to his subordinates.

We need not follow Napoleon in the occupation of Moscow, and the retreat to the Beresina which ended in the dissipation of the Grand Army. The story has often been told, and is ably retold by the author.

X.—1813.

Although the Grand Army had melted away like the snows which contributed so much to its destruction, the middle of the year 1813 found Napoleon with an army of 300,000 men at his disposal. He had already begun to think of the resumption of the offensive. In a series of instructive letters, written to Prince Eugene in the month of March, he had explained the strategical situation, and issued many instructions, among which the following extract regarding the sanitary care of his troops in camp is especially interesting:—"Above all, choose a very healthy soil (for camping stations). Consult the medical men and the natives on this point. Do not permit of any exceptions. If you are close to marshes or inundated meadows, you may say what you like, but you are in an unhealthy spot, and you must go higher up. You will understand that in such places I should lose my whole army in one spring month. I wish you to consult your own common sense and the natives, rather than the Doctors." And, we are told, his principle in this respect was: "It is better to fight the most sanguinary battle, than to encamp the troops in an unhealthy spot."

The question of the utility of cavalry has recently been under discussion, and appears to be still undecided. It is, therefore, interesting to have Napoleon's views on the subject, and it is also noteworthy that during his campaigns of 1813-14 he much felt the want of this arm, and consequent difficulty in procuring information. He had always insisted on the necessity for the cavalry to maintain touch with the enemy. Thus he said in 1812:—"A colonel of Chasseurs or Hussars who goes to sleep instead of spending the night in bivouac and remaining in constant communication with his picquets deserves to be shot." In April 1813 he writes to the King of Wurtemberg:—"I should be able to finish matters more quickly if I had 15,000 more

cavalry, but I am rather weak in this arm" and again—"Never, in any campaign, has the want which a dearth of cavalry creates been more painfully felt than in this." "The infantry, fatigued by the past day's work, had to march against the enemy's horsemen; for the scanty cavalry was quite insufficient, and as it consisted for the greater part only of regiments of the Guard, it was always kept in reserve. How strikingly the saying has been proved true in this campaign (1813) that newly recruited troops can be easily made into infantry soldiers, but not into cavalry."

Again Count Yorck tells us:—"To the very end of his life, after his extensive experience of offensive as well as defensive warfare, the Emperor laid emphasis upon the value of cavalry in conducting a really decisive campaign. "General Lloyd asks, what is the use of much cavalry? I on my side ask, how is it possible to carry on anything but a defensive war, covering oneself by entrenchments and natural obstacles, if one has not a cavalry fairly equal in strength to that of the enemy? if you lose a battle your army is lost. An army superior in cavalry will always have the advantage of being able to cover its movements, of being well informed as to the enemy's movements, and giving battle only when it chooses. Its defeats will have few evil consequences, and its successes will be decisive." The whole campaign of the Allies, Lutzen, Bautzen and the retreat to Silesia furnish proofs of this. And in order that the cavalry may be independent in all situations which may arise, he declared that a long range rifle is indispensable for it. "It is universally conceded that the Cuirassiers have difficulty in using their carbines; but on the other hand it seems absurd that 3,000 or 4,000 brave men should be exposed to being surprised in their cantonments or stopped in their marches by a couple of light companies I cannot reconcile myself to seeing 3,000 men, picked troops, liable to be overwhelmed by any partizan leader during a popular rising or in a surprise by light troops, or to be arrested on their march by a few good sharpshooters behind a brook or a house; it seems absurd to me. It is my wish that every man should have a musket, even if it be only a very short carbine, carried in the manner most convenient to the Cuirassiers, it is all the same to me. Place, therefore, some proposal before me, so that these 3,000 men may not have to depend on infantry to protect them in cantonments, and that they may be able to clear their way if any infantry, inferior to them in numbers, attack them. As to the lancers, see whether we could manage to arm them with a carbine in addition to their lances; and should this be impossible, at least one-third of each troop ought to be armed with carbines." It is certainly remarkable that all the so-called "lessons of the war" find counterparts in history, a knowledge of which and of the principles deduced therefrom might save us from having to learn those lessons again from bitter experience.

Although the Emperor had succeeded, a few months after the ruin in Russia, in organizing a fresh and numerous army, the men composing it were very inferior to those whom he had hitherto led

to victory. The officers too were not up to the standard; showing the necessity of creating in time of peace a reserve of the commissioned ranks to supply the wastage of war. Thus Napoleon says "it is the officers and non-commissioned officers who are the backbone of any body of men," and in 1813 speaks of "these incapable officers who have just left college, who make the soldiers laugh, and know nothing."

Some of his remarks on artillery are also interesting and instructive. "Great battles are won by artillery." "It is the artillery of my guard which generally decides my battles, for, as I have it always at hand, I can bring it to bear wherever it becomes necessary." Again he says, "The more inferior the quality of a body of troops the more artillery it requires. There are some army corps with which I should require only one-third of the artillery which I need for other corps."

There is no space here to comment on the campaign of Lutzen and Bautzen terminating in the treaty of Poischwitz. The Emperor won two victories, but they were not Napoleonic victories. The decline of his mental powers becomes apparent, both in the conduct of these battles and the conclusion of the subsequent armistice. After Bautzen he found himself in a most favourable strategic position, but instead of taking advantage of it he concluded a treaty with his enemies. His reasons for this measure were expressed by the Emperor, "I decided for it on two grounds; first, because of my want of cavalry, which prevented me dealing great blows, and secondly, because of the assumption of a hostile attitude on the part of Austria." As regards the first reason, he had a superiority of numbers at his disposal to compensate for want of cavalry. As regards the second—it exhibits a fear that was not present in his previous campaigns, when he was ever ready to risk all for a decisive success. He was not afraid to fight at Austerlitz with Prussia threatening his rear. But the sun of Austerlitz had set, and Napoleon's star no longer shone brilliantly in the firmament.

I have already observed how Count Yorck entirely ignores Trafalgar, as if it had no influence whatever on the course of events in Continental Europe. He also fails to note the effect of the Peninsular War, which was all this time proceeding more and more unfavourably for the French. There can, however, be no doubt that "the Spanish ulcer" was sapping indirectly the life-blood of Napoleon's power, and exerting a very great effect on the events in Germany. Gradually driven back upon the Pyrenees, the French army of the Peninsula was losing strength and prestige, whilst the ulcer was threatening the very vitals of the French Empire, towards the frontiers of which it was gradually making its way. In ignoring this factor in Napoleon's decline, our author appears more desirous of exalting the part played by Prussia in the rise of German nationality, than of presenting us with a true analysis of cause and effect.

XI.—DRESDEN-LEIPZIG.

The outbreak of hostilities on August 11th after the treaty of Poischwitz found Napoleon for the first time undertaking a war of a defensive nature, although in doing so he preserved the power and intention of assuming the offensive should opportunity offer. He was in numerical strength inferior to the allies, while his troops were for the most part raw recruits. Holding the line of the Elbe as a base, he designed to operate offensively with three armies, Dresden being a *point d'appui*, supported by other fortresses on the same line. The chapter in Count Yorck's book dealing with Dresden is interesting as showing Napoleon's views on the value and use of fortresses, many of the Emperor's notes on the subject being quoted; and, as the author says, "there is probably no better military situation in existence, to illustrate in one single example the mutual relations between an army in the field and the various forms of fortification, than this base of the Elbe chosen by Napoleon, the arrangements made for its defence, and the Emperor's comments on it. Having secured his base on the Elbe he could look to taking offensive action in the regions that lay beyond it; as he himself said, "What is quite clear is that 400,000 men, supported by a system of fortresses and with such a stream as the Elbe for their base, cannot be turned."

It is in this campaign of 1813 that we find fully exemplified one of the main causes of the ultimate failure of that system of warfare which involved so much centralisation in the person of the general. The seventeen years' war in which he had been engaged had produced in his army great commanders, subordinates able to do great things under the eye of their chief. But, as all action was concentrated in Napoleon's hands, his subordinates had grown so dependent upon him that they were unequal to the execution of independent operations. This was realised too late by Napoleon. "The worst feature of our situation is the little confidence my generals have in themselves. Wherever I am not present, they exaggerate the enemy's strength." As the author says, these leaders dreaded a free, independent command, which should be the goal of ambition of every soldier. Again, Napoleon exclaimed after Gross Beeren and the Katzbach—"Every plan which involves my absence, represents a regular war, in which the superiority of the enemy in cavalry, in numbers and even in generals, would lead to absolute ruin."

The physical disabilities of the Emperor appear now to be greatly in evidence, at any rate after the battles around Dresden. In his plan of campaign we find his genius burning as brightly as ever. At Dresden we see him, by the force of mere personality, defeating a greatly superior force of the enemy. But in following up the victory, the crushing pursuit, directed by Napoleon in person, so characteristic of his earlier campaigns, is no longer present. He pursues for a short distance, and then, at a time when a vigorous following up by his troops, inspired by his own presence, might have sealed the fate of Europe, we find him returning to quarters, and leaving the pursuit in incompetent hands, with the result that the beaten enemy turned upon and destroyed his pursuers. At Dresden, Count Yorck tells us,

"the strength of his genius had been able to atone for a minority of 80,000 men, and I know of no example in war which furnishes clearer evidence that the numbers and *moral* of troops, important factors as these are, may be over-matched by the weight of one person of genius." Indeed, the terror of Napoleon's name was so great as to cause the Allies to avoid battle wherever he was present in person. But the destruction of Vandamme at Kulm, of MacDonald at the Katzbach, and of Oudinot at Gross Beeren had so depleted the French army that, their communications being threatened, a further retirement became necessary. Napoleon fell back upon Leipzig with all his forces. The chapter on Leipzig opens with some very interesting notes by the Emperor on the situation. In commenting on the plan of campaign after Dresden, the author points out that here for the first time Napoleon's strategy may be called in question. "The most characteristic feature in the whole plan of campaign is this, that the Emperor now refers only to geographical points, and no longer to the attack or defeat of this or that hostile army; this is no longer Napoleonic strategy." In this chapter the campaign of Leipzig is carefully analysed in a manner which cannot fail to be instructive to the military student. After Dresden, we no longer see a resolute commander, fixing his eyes on the main issue, and ready with his decisions to meet all eventualities. On the contrary, we find in Napoleon symptoms of vacillation and hesitation which appear to be characteristic of a weakening of the intellect. We see him hesitating where circumstances demanded decision without loss to time. In 1806 he had said, "while our enemy is taking counsel, the French army marches." Now it is he himself who loses those precious moments that can never be recalled. He is stopped by bad weather. But there was a time when he said "It rains heavily, but that does not stop the march of the Grand Army." By his delay and hesitation he seriously risked being cut off and surrounded at Dresden, allowing the enemy to concentrate their forces against him, when bold and immediate action might have considerably improved the situation.

There is in this chapter an interesting dissertation on the advantages and disadvantages of separate lines of operations. The author comes to the conclusion that, partly owing to the difficulty with regard to supply, large armies may act on different lines, whilst it is advisable to keep small armies concentrated. He sums up by saying, after quoting Jomini on the subject, that "for very large armies the dangers of advancing along separate lines of operations are much fewer, and this is still more the case in our days, when the telegraph almost removes one of the dangers which were formerly present, namely, the want of concerted action in the various operations." Defeated at Leipzig, Napoleon retired to the Rhine, his army now reduced to 80,000 men. During his retreat, with some of his old vigour and determination, he attacked and brushed aside a Bavarian army which had assembled to oppose him at Hanau. His career of invasion and conquest was now at an end. Holding the line of the Rhine, the Great Emperor was obliged in his turn to make preparations for resisting foreign invasion.

XII.—THE CAMPAIGN IN FRANCE.

The campaign in France has often been referred to as one of the most skilfully conducted of all Napoleon's series of operations. It is extolled by Thiers and other writers, and has been critically analysed by Hamley, and certainly in the conduct of its details it exhibits no want of ability in the general, who was obliged to succumb to irresistible forces. At the same time circumstances lend it a dramatic interest, imparting to it a similitude to the dying struggles of some noble beast of prey which, after a career of destruction, is itself struck down, but dies fighting to the last, its antagonists keeping at a respectful distance even while it is in the throes of dissolution.

In the campaign of France Napoleon's marshals and generals failed him again, tired as they were of war, and brought up, as they had been, in a school where they were ever dependent on the Emperor. In this connection Count Yorck says:—"It is remarkable, as shown by his letters, how many reprimands and punishments Napoleon inflicted on his marshals and generals during this campaign. Formerly, when the vigour of his genius added to the superiority in numbers of his troops over the enemy carried all before him, he was well satisfied with the successful issue of events, and did not trouble to remedy defects, or correct errors in judgment or execution. Now, too late, he was seeing the dire results of such negligence. . . . In actual war complaints and severe punishments come too late; it is in the time of peace that we should appoint men of judgment and activity to high posts, and remove those who have lost these qualifications." In these last days before his downfall Napoleon exhibited all his old vigour as a general, but his mind appeared to have lost the sense of proportion, and to be unable to judge of the nature of ephemeral as compared with permanent successes. He was indeed ubiquitous and full of energy, his mere presence appearing sufficient to ensure the defeat of his enemies on many occasions. But his judgment should have told him in time to make terms with the enemy whose overwhelming superiority in numbers assured their ultimate success. He made many convulsive efforts to stem the tide of invasion, but such successes as he won were of a local nature, and could have only a local effect, and no influence upon the main issue. The terror with which the Allies regarded him is interesting and instructive as showing the great value of personality in war. Thus we find Schwarzenberg retreating before him, having only a superiority of two to one over Napoleon's forces. The Allies said "We expect to see this terrible man everywhere. He has beaten us all, one after the other; we dread the audacity of his enterprises, the rapidity of his movements, and his able combinations. One has scarcely conceived any scheme of operations before he destroys it."

But the drama was drawing to a close. These movements were only the convulsive efforts of the moribund conqueror. The allies entered Paris; his marshals deserted him, and Napoleon abdicated.

XIII.—THE HUNDRED DAYS.

Having escaped from Elba, Napoleon landed in France on March 1st, 1815, and twenty days later stood in the Tuileries. There were, as the author points out, two courses open to him: to await in France the attack of the Allies, or to undertake an immediate offensive war against such of their forces as were in the field in Belgium, and to gain a great battle before they could concentrate against him. His decision to take the offensive was undoubtedly correct, as Count Yorck says—"thus to commence the campaign with an offensive movement was not only the best course to be taken, having regard to the temperament of the Emperor; but was altogether the best thing to do." In the chapter dealing with this campaign there is nothing very new. The author naturally enhances the effect of the part taken in the final struggle by the Prussian army to which, perhaps, English writers are given to ascribing too little in their anxiety to show Waterloo as an entirely British victory. The author characterises Wellington as "a leader of great military gifts, but cautious by nature; a man of method after the manner of the days of Frederick."

There are some interesting remarks on fortifications and defence of capitals. The Emperor insisted on the importance of a capital, and the necessity for its defence. Replying to the possible objection that a capital may require 50,000 or more men to defend it, and that such a number would form an army which might be better employed in the field, he points out that the 50,000 men need not be soldiers. "In times of reverse, and in situations of great distress, states may be short of soldiers, but they are never short of men for home defence. For 50,000 men, with 2,000 to 3,000 gunners among them, can defend a capital and repulse the attack of an army of 300,000 to 400,000 men, whilst 50,000 men in the open, unless they are highly disciplined soldiers and commanded by experienced officers can be thrown into confusion by an attack of 3,000 cavalry." These words of Napoleon are worthy of consideration in connection with home defence.

The Emperor was greatly changed during the hundred days, having undergone physical and mental deterioration in the past few years. At the same time the campaign, in its conception, was no less brilliant than those which had preceded it. The plan, with inferior forces, to separate the two hostile armies, which were operating from divergent bases, and defeat them in detail, was bold and skilful; indeed, it almost succeeded, and would undoubtedly have been successful had the usual crushing pursuit been carried out after Ligny. Writing of Napoleon as he was at this time, Constant says:—"He could no longer, as formerly, conquer distractions, sleep or fatigue. His powers of attention seemed to have reached their limits." And Marmont:—"He still possesses his remarkable intelligence. In this respect he is still the same as you have known him; but there is no longer any resolution, any will, any character in him. These qualities

formerly so prominent in him, have vanished. Nothing remains but his mind." Of himself the Emperor said:—"It is certain that under these circumstances I no longer had within myself the feeling of ultimate success; I no longer felt my former confidence; either because I was beginning to be past the age at which fortune usually favours men, or because in my own eyes, in my own imagination, the marvellous lustre of my career was dimmed; in any case it is certain that I felt something was wanting within me."

The somewhat anti-British bias of our author has already been noticed. We here find him accusing Wellington of failing to keep a definite promise to support Blücher at Ligny. This accusation is unjustifiable, for, as the Editor points out, Wellington's promise was conditional. Again, he says that the attack delivered by the French Guard along the Brussels road to the left at 8 P.M. broke through the British ranks as far as their last line. This is entirely inaccurate, for the British ranks were never broken; and, although the Prussian advance greatly influenced the course of the battle, it was not the main factor in Napoleon's defeat, as the author would seem to indicate.

The book closes with an instructive dissertation on the value of theory in war, which Napoleon himself fully appreciated when he said:—"if some day he had the time, he would write a book in which he would formulate its principles in such a detailed manner that they should be capable of being understood by every soldier, so that war could be learnt, just as any other given science." Certainly there are principles governing the art of war, which may be deduced from history, applicable, according to circumstances, to the conduct of all military operations. And from nowhere are more sound principles deducible than from the history of the greatest general of all ages, whose campaigns will serve for instruction in military science so long as the great world spins down the ringing grooves of time.

THE TRAINING OF THE NATIVE INFANTRY RECRUIT.

BY MAJOR F. V. WHITTALL, 1ST INFANTRY, HYDERABAD CONTINGENT.

In his "Letters on Infantry" Prince Kraft points out the difficulties under which the recruit labours, when he first enlists.

The young man, who comes to the Native infantry, has no notion of how to hold his body or to use his muscles and joints in the way in which they are required to be used by the soldier. He has bent over a plough, or slouched behind cattle: he has never held himself erect, and has no notion of how to assist the working of the organs of his body by the proper carriage of it; by his gait. His very language is bucolic, and not the slang of the army or cantonment.

It was, apparently, the rule in the German Army, and is probably so in ours, to catch the untamed recruit; fluster him by an audience with an officer: carry him thence to the doctor, to have all his susceptibilities hurt by a close and somewhat degrading (however necessary) medical inspection, and set him, all confused and somewhat frightened and weary, to learn the attitude which was facetiously named "Standing at Ease."

A Drill Instructor roared at him unintelligible phrases, and he was "knocked into shape" somehow.

Prince Kraft points out the fallacy of such a system, and I propose hereinafter to offer some suggestions for training recruits, which do not clash with the Infantry Training (provisional) of 1902.

Scheme.

During the first week of his service, the recruit should do no drill and never appear on the parade ground. He should go for 1 hour a day to the gymnasium and be there taken in hand by an old soldier, who will show him how he must stand when he hears the word "'Tion," "Stand at Ease." He should also be exercised in Native "kasrat." And he should learn "Free Gymnastics."

In the second week, 2 hours a day in the gymnasium, and begin gymnastics with apparatus.

In the 3rd week, 3 hours a day of gymnastics and physical drill.

In the 4th week, 4 hours a day as before.

But, from the day that he is finally approved by the Commanding Officer he must be given his rifle at Cleaning Arms Parade : taught how to clean, take care of, load, aim it. He can also be shown objects at 25, 50, 75, 100 yards, and further, as his instruction progresses, have it explained that these are the names of the distances of those objects.

With the beginning of his 2nd month of service he begins Squad and Aiming Drills : but half his working hours are spent in the Gymnasium, and his Judging Distance Drill is progressive.

The 3rd month should see him well advanced in Squad Drill and accustomed to his rifle. He has done Aiming Drill, and the Preliminary Drills of Musketry : has commenced blank firing and might even have fired ball on the range in a match.

By the end of the 4th month, if he has not already commenced his target practice, he should be ready to do so.

At the end of six months he should be ready to be sworn in.

It will be found that the progress made by recruits under this system is perfectly astonishing. They show so much more brightness and alacrity than those who have had Drill "hammered" into them, and I believe they make better soldiers.

This is practically all the "System," but there are some details in the working out of it that require consideration.

Gymnastics.—Of late years it has been discovered that it is much more important to teach a man the use of his limbs and muscles, than to teach a battalion to stamp the foot in unison, or make semaphoric motions to the strains of a band : to teach "bayonet fighting" rather than the "bayonet exercise."

And the present issue of "Infantry Training" goes a long way to giving a man elasticity and alertness, besides expanding his frame, instead of giving him the Noah's ark figure and stolidity of the Peninsular days. But the "Book" does not contain all.

Though no advocate of an apish copying of foreign, especially German methods, I think we might well add to our gymnastic apparatus some of the usages of the Continental Armies. I mean, athletics should be added to gymnastics.

"Field or applied Gymnastics" as taught in the German, Swedish, French, Belgian and Austrian Armies seem practical and useful.

The appliances consist of a set of ditches and barriers, such as might be constructed in any short course of Instruction in Field engineering. The Germans and Swedes have a pole or plank across a ditch, to be walked over. The wall is a useful obstacle, the overcoming of which should be taught. These exercises are taught and practised, not as athletic competitions, but the men are instructed in the methods of helping each other over the obstacles, and the exercises are performed with rifles in hand.

The negotiation of a trench, ditch, parapet, plank bridge, ladder, does not come naturally to anyone. Sandhurst cadets probably remember the joys of "Up aloft!" in the early days of their student-ship. Leap-frog, follow my leader, foot-ball, hockey, tug-of-war are all aids to the development of lungs, muscles, sinews, and alacrity of brain. I would include all these in the gymnastic training, or, indeed, training of the soldier.

English words.—The difficulty with Native soldiers must always be the teaching them the meaning of English words and expressions.

The young subaltern comes to a Native regiment full of learning, and will try to persuade a recruit that, when he has made a turn, his new front is not, per adventure, at right angles to his old.

But, the recruit has not tasted the inestimable benefits of the worthy Euclid. He does not know that two lines form an angle, and if he did, he would not understand what that had to do with the position of his toes. Again, the Native has to learn, somehow, that 700 yards is a certain distance according to English ideas. He would probably express the same distance correctly in other words, but he must not, for his rifle sights are marked according to English standards.

Fortunately, our English counting is not so complicated as Native and, therefore, it is possible to teach him, in time, that 2,500 stands for 25 hundred or 2 thousand 5 hundred.

The terms "Odd and Even" are almost beyond his comprehension, but he can be persuaded, in time, that 1 and 3 are "odd" and 2 and 4 "even". The difficulties of this problem are inevitable, and the only thing to do is to plod along and teach the meaning of the English, somehow.

Musketry.—The difference in rudimentary education, in modes of thought, and in religious ideas, too, presents a great difficulty when we come to the theory of Musketry. A native will learn that "Gravity" is the attraction of the earth, but he probably won't believe it. In our schools of Musketry we teach Natives by diagram, and hereby hangs a tale. A certain Deputy Assistant Adjutant General who was particularly proud of his powers of depiction was lecturing to a class of Native officers on the "trajectory" and the "line of sight." He drew, on the black board, a beautiful liquid eye and sundry lines, straight and curved, and gave them their respective names. Having delivered himself, (let us say, in excellent Hindustani) of his lore, he thought he would test the effect of his teaching; so he asked Subadar Major Gulzar Khan to explain the diagrams. The veteran protested that his sight and hearing were failing, owing to his long service, and suggested that the youthful Jemadar Phul Sing, who had only 20 years' service, might well be spokesman, and in this he was warmly supported by all but Phul Sing. The bonds of

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But the drama was drawing to a close. The emperor was only the conservative part of the revolution, and when he entered Paris, his marshals deserted him, and Napoleon a

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discipline were, however, firm. so Phul Sing rose and cleared his throat, and scraped the floor with his great toe. The Artist Deputy Assistant Adjutant General getting impatient, said "Very well, what is this?"; denoting the eye. The Jemadar, with another guttural cough, said "Kya jane? Shayad gilehri ho to ho!" "It may be a squirrel, or it may not!"

I cannot vouch for the truth of the above story, but it illustrates my meaning. It is not easy to teach by diagram men, who will complacently hold a photograph upside down and say it's "very good." Much more, then, is it a waste of time to go through the Lectures on Theoretical Principles to a squad of recruits. It is useless drawing diagrams for them, or filling their imagination with weird English words. If you want to explain the Trajectory, do so practically, with a stone. Show them that a feather can be wafted by the wind, and a stone or bullet affected to a less degree.

If these points are difficult to instil into the Native mind, what shall be said of the late addition to Musketry Regulations on page 34? Here a Fahrenheit Thermometer, Barometer, Aneroid and various other works of the devil, (says Bhura Jat), come into play.

My contention is that the teaching of the names of the component parts of the rifle, theoretical instruction, are useless.

The sepoy isn't allowed to take his rifle to pieces, so what does it avail him to know the gist of paragraphs 37 to 64 inclusive of the M. R.?

The whole of the theoretical principles should be cut down to the least possible or indispensable to the soldier, and should be taught by practice and ocular demonstration, rather than by verbal proof or delineation.

If recruits shoot for prizes in their course of Target Practice they are inspired by ambition and interest and do not look on it as a trial on which their daily bread may depend.

Skirmishing.—In teaching recruits skirmishing, individual men should be taken by an Instructor and asked how they would advance under fire : to point out the next piece of cover they intend to make for. The Squad should also be practised with and against squads of trained soldiers.

Drill.—Too much stress cannot be laid on the point mentioned in I. T. section 1 (a) 6, namely, that short and frequent drills are preferable to long lessons. I advocate 15 minutes of each, Firing Exercise, Squad Drill, Physical Training, Free Gymnastics, Bayonet Fighting, and would place a limit of 30 minutes on a lesson on any of these subjects. The character of the Instructor is a most important point in the instruction of recruits, and they should be called out as fuglemen and instructors themselves.

Recruits' Messes.—Though hardly a part of a recruit's training, his feeding is so essential to his welfare that the value of Lord Roberts' scheme for recruits' messes cannot be exaggerated. The recruit in full work has very little spare time, and, if this is taken up with obtaining and preparing his food, his rest is curtailed to a very small amount. Therefore, let the recruits' meals be prepared for them, and what is more, well prepared, so that they may come in from work, clean themselves, have a square meal, well cooked, and rest till they are called out again. Not only will they thus benefit their bodies, but they will have some pocket-money over on pay day. For it can hardly be contested that messing is not cheaper than individual preparation of food. The Native has an almost instinctive dislike to sharing and combining in matters of food, or that affect the pocket, but these can be overcome.

HORSE-BREEDING IN INDIA.

To the Secretary of the Journal, United Service Institution of India.

Sir,

I have only lately seen a copy of your quarterly Journal of October 1902 and find that General Tyler has honoured me by criticizing the article which you were good enough to publish for me in the July number of the same year. Had I read this sooner I should have replied sooner, as I fear that perhaps by some careless expressions I have misled the general as to my views on the subject for, in the concluding paragraph of his article he says that I "*take an unduly gloomy view of horse-breeding in India.*"

Now the object of my present letter is not to enter into any fresh arguments, but to disclaim the entertainment of any "unduly gloomy views."

How should I take any but the most hopeful views, seeing that the Commission has so fully endorsed the opinions that I have held for so many years, *vis.*, that the pure native breeds of the country must be encouraged and not suppressed, as they are the only sure foundation stock for horse-breeding in India, and, secondly, that the old establishment for supervising the industry was wholly inadequate for the purpose. The Commission's recommendations on these two points as well as those for the grants of land on canals, and for young stock runs have indeed made me most hopeful for the future, there is but the one point about which I cannot be hopeful, and that is the creation of the "crown horse" which is to provide us with stallions in the future and save the expense of importing from foreign countries.

The Commission has, as General Tyler says, abundant evidence as to the soundness of this project, but it has not been my privilege to see that evidence and I have to fall back on the evidence of the last hundred years.

We have, I suppose during that time imported more than a thousand English stallions and from them we have bred excellent remounts, but the main object for which they were imported, *vis.*, to improve the indigenous races of the country and to create an Anglo-Indian type of horse capable of permanently reproducing itself, has failed, for *as far as I am aware* we have not at the present moment a single such representative of the thousand horses imported, whereas, should nature have intended the cross to be permanent we should have had, mismanagement or good management, breeding in studs, or by diffused system, not thousands but tens of thousands of such horses, it is this consideration that makes me hesitate to put faith in the "crown horse" who is to be the descendent of more English sires.

Nevertheless, as General Tyler says, the Commission had plenty of good evidence to support their recommendations. My single

opinion may be wrong and if so may success attend the "crown horse" but don't let it be said that I entertain an unduly gloomy view of the future of horse breeding in India.

There is one more point on which I must offer an apology to General Tyler for my careless writing. At page 327 of Journal he quotes my words "English blood has never done so with any other class of animal" and he calls this an astonishing statement. Truly it is "an astonishing statement," if taken in the sense that General Tyler takes it and which my careless expression led him to take: had I written "any other class of *Indian* animals" he would not have referred to horse breeding in Australia and other countries but to the breeding in India, of cattle, dogs, fowls, etc., etc.

I can hardly accept the advice of General Troup's Commission on the subject of stud bred stallions as that Commission advised the extensive use of Hackney stallions in preference to Thoro'breds, an opinion which General Tyler's Commission has pronounced a great error.

I will not further take up your time but only offer one more remark. I consider that the breeding of Remounts in our studs is "one thing," but that to cover the country with a fertile and vigorous race of good small horses is quite "another," for the first the English stallions may be successfully used, but he cannot create the second, as nature forbids it.

However we may safely leave the new Horse Breeding Department to work out all these questions, and to come to a right conclusion, only I would ask the officers of that department not hastily to come to the conclusion, that, because the English Thoro'bred is the most beautiful horse in the world, he is necessarily a fitting mate for mares of a different origin, a different blood, and natives of a different climate, and a different soil.

Yours faithfully,

JOHN WATSON, *General*.

15th May 1903.

PRECIS OF FOREIGN MILITARY PAPERS.

French Papers.

May 1903. Revue de Cavalerie.—The three numbers of January, February and March are all interesting, particularly to a cavalry officer. The serious doubts which have arisen in France as to the soundness of their cavalry tactics are reflected in several articles which discuss the chances of successful intervention of masses of cavalry on the battle field and the evolution of cavalry with regard to its fire action on foot.

It is plain that the most conflicting theories prevail. On the one hand there are those officers whose imagination can only recall certain phases of a fire fight between exhausted troops of infantry and artillery in which a mass of cavalry daringly led and skillfully brought up might charge with decisive effect. On the other the spectre of rapid firing machinery forbidding all approach to mounted troops dominates the mind.

A combination and alternation of the two fighting resources of cavalry on the field of battle itself is somewhat timidly suggested.

The balance of opinion seems to be in favour of reserving cavalry as far as possible for shock action, which is natural enough to officers trained in the school of continental manœuvres.

Also the difficulty of finding time, already too short for the increased skill in horsemanship and shooting which extensive employment of fire tactics demands in the teeth too of the movement for continued reduction of the period service is a very serious one to the continental cavalry offices.

The discussion about the critical hour at Sedan when the retreat to Megines was countermanded and General Ducrot superseded by de Wimpffen is of interest to the student of strategy and military history.

The use of cavalry as telegraphists in war and the original strategic deployment of the Germans in 1870 are discussed in readable articles.

The tactical problem set for the examination for admission to the French Staff College in 1903 is given with map in the March number.

Revue Militaire des Armees Etrangères.—January, February, March 1903. The work recently produced by the German head quarters staff on the movements of armies in 1870, historical and tactical studies, is noticed and commented on and the book is warmly praised.

The German Staff College is the theme of another paper which is continued in the February and March numbers. The Swiss shooting Societies and the military forces of Morocco come under review.

Perhaps the most interesting papers to us are those describing and criticising our most recent infantry and combined training regulations, and those dealing with the Boer war. A good brief description of the attack on Waggon Hill during the siege of Ladysmith is given. Then comes the pursuit of Cronje from Magersfontein to Paardeberg. Roberts' decision to pursue on February 15th is

said to show a firm character, but the detachment of the cavalry division from the scene of conflict to seize a mere geographical point, necessitating the forced march which proved so ruinous to its subsequent efficiency is drawn attention to.

This is worth considering because in the absence of any official account of these operations the so-called relief of Kimberley has been regarded by the British public as a great feat of arms. It is rather startling then to find military critics describing the affair as a blunder and disaster.

Turning next to the Review called "Questions Diplomatiques et Coloniales" we find papers on all the questions of burning interest in this field of politics.

The Bagdad Railway, the Boxers in Sechuan, Venezuela, Morocco and Macedonia are all subjects for expert discussion. These papers are doubtless of some value to the strategist and military politician though probably of no great interest to most of your readers. Nevertheless those officers who give attention to the seat of future disturbances of the peace with a view to getting a flying start in the race for employment in the field might find useful information in these periodicals. Each one of the papers under notice contains a mass of official and professional news of no great interest generally speaking outside France, but giving a fair idea of what is going on and what books of professional value have recently made their appearance.

Précis of German Papers.

The supplements of the *Internationalen Reue über die gesammten Armeen and Flotten*, for the first quarter of 1903 are worth reading, especially the number for January and February. January number treats of the campaigns of 1864-65 in Virginia, discusses the organisation and tactics of the contending armies with special reference to what is termed a modern war of positions. There is nothing very original in the deductions, and they seem to be taken from works with which English readers of military history are familiar, but the paper is interesting as showing the trend of opinion in the tactical writers of the German army, as well as the new born interest in the United States as a possible military rival.

Of far greater interest is the paper in the February number on *New Influences in French Tactics*. We have here a concise sketch of the opinions, put forward in the last two years by the Generals de Négrier, Kessler and Brugere on the tactical conditions of the day as modified by recent improvements in weapons. The two former generals, both of whom have occupied the highest posts in the French army, favour tactical changes in the direction taken by our own troops and based to a great extent on the experiences of the Boer war. They favour above all things wide turning movements against the enemy's flank so as to obtain the necessary convergence of fire to assure a fire

superiority on the enemy's position. When frontal attack is necessary they advocate the process of attrition, lines of skirmishers at wide intervals and distances, forming a curtain at first and finally giving the pressure along the whole extent of the hostile line by which its exhaustion and defeat is to be effected. A dispersion of artillery and the employment of cavalry on foot with fire-arms are insisted upon. In sharp distinction comes General Brugere's opinion. This officer is at present designated to command-in-chief the French armies in case of war. He sees great danger in confusing combat of preparation with the actual storm of the position which should be effected by fresh troops kept in hand for the purpose and brought up when the troops of preparation had gained the mastery in the fire fight. General Brugere still believes in the possibility of dealing crushing blows in a rapid manner by skilful intervention in the fight of reserves under the leader's hand, brought up by skilful use of the ground to the critical point. He disbelieves in the attack by attrition all along the enemy's line which must be broken at the most important and commanding point or points. He disbelieves in the possibility of constant outflanking and looks to the necessity for frontal attack. It is General Brugere's views which most widely obtain in the French army and which have official sanction for the time being. The same supplement has an account of the autumn manœuvres of the 35th division of the French army.

The March number is devoted to the Austrian manœuvres of 1902.

The three first supplements of the *Militär Wochenblatt* of 1903 contain some good reading. The first which deals with the investment of the French fortresses in 1814 is of local rather than general interest, but the paper in the succeeding number on a new history which the Russians are preparing of their campaign in 1877 has a concise sketch of the events which immediately preceded and followed the outbreak of war, the invasion of Bulgaria, the passage of the Balkans and seizure of the Shipka pass. The narrative is carried on to the first battle of Plevna.

The third number has some short accounts of the performances of troops in retreat from lost battlefields, Gibschin and Weissenberg Spicheren and Katzbach are the selected instances, with critical review of the circumstances of the defeated troops in each case. *Die Armee* concerns itself a good deal with the Russian army. New Austrian regulations for the training of infantry in action are discussed. The whole question of Infantry tactics is the subject of 2 or 3 short articles, and the equipment of Artillery.

The *Militär Wochenblatt* in its weekly numbers discusses chiefly the tactical questions of the use of cavalry and changes in infantry attack. Good papers on military history, ranging from 1813 to the present day are to be found, with shrewd criticism in many cases.

The balance of opinion undoubtedly inclines to conservative methods. Distrust of the fighting power of troops when once in a confused mass out of the hand of their leaders is very marked. Wörth is considered a great object lesson with its appalling loss. It is asserted that unquestionably the handling of 25 army corps on a narrow front demands different tactical methods to the leading of 10,000 men with all South Africa to manœuvre over.

Russian Papers.

VOIENNYI SBORNIK.

January 1903.

The War of 1854-55 in the Gulf of Finland.—This article, (the fifth), continues to describe the operations from the Russian point of view: the description of the Russian fleet in those waters during the war is interesting.

The conduct of an action, as the question is regarded in the German Army.—The present tendencies in Germany are to hold the enemy in front, whilst using the reserve for a wide turning movement to make a decisive blow on one of the flanks. The author considers that this is really only going back to Napoleonic tactics, of which Bautzen was the most brilliant example.

Notes on the Austrian Infantry.—The author commences with a short account of the organisation of the army, *vis.*, Imperial army (joint Austrian and Hungarian), Landwehr (Austrian), and Honved (Hungarian), and the resulting complication and difficulties. The rest of the article is devoted to an account of terms of service, education, life, etc., of the officers.

On the summer drills of the Russian cavalry.—In this article the author lays stress on the following points: the need of more practical instruction both for officers and men, that much valuable time is wasted in parade movement, which would be much more profitably spent in manœuvring; he advocates the doing away with the march past.

The influence of shields on the matériel and tactics of field artillery.—This article is only a resumé of the German General Reichenau's views, which may be summed up as follows: shields are absolutely necessary, but they must be more effective, *i.e.*, thicker, hence the dead weight will be greater; to obviate this difficulty he proposes to reduce the calibre, which will at the same time increase the accuracy and allow more rounds to be carried; shrapnel have seen their day, and in the future only high explosive shell should be used.

Military pigeon post at the Kursk manœuvres.—Contains a mass of details from which it appears that the working was satisfactory and useful.

Modern organisation of military doctors and their recruitment.—The author's main point is that an ordinary medical degree requires supplementing by some special military-medical instruction.

Nearly all European powers have recognised this and have formed special army-medical schools, such schools do not exist in Russia, consequently army-medical arrangements are on a bad footing.

Amongst the Sayani hills.—This article is mainly geographical, and of but little interest to the general public.

The organisation of the expeditionary forces in China in 1901-02.—This article is interesting as it gives a comparative summary with many details of the supply and transport services of all the powers engaged.

February.

The War of 1854-55 in the Gulf of Finland.—The sixth article deals with the bombardment of Sveaborg by the allies.

The strength and composition of a modern fleet.—This article deals in as simple and non-technical manner with the offensive weapons, ram, torpedo and gun, and the defensive measures adopted against these weapons, armour, water-tight compartments, etc.

Remarks on the Austrian Infantry—(continued).—This article continues to describe the life, etc., of the officers, deals largely with their discipline, and gives many interesting details regarding Courts-of-Honor and duels.

The article concludes with an account of the rank and file, pay, terms of service, etc.

The influence of shields on the tactics of field artillery—(conclusion).—Treats of the action of artillery in attack, defence, pursuit and retreat. The author makes the rather startling assertion, that artillery is now no longer an auxiliary arm, but is the decision arm.

Amongst the Sayani hills—(conclusion).—At the end of this article are some rather interesting details regarding the militia of Northern Mongolia, and the Chinese cordon of posts along the Russian frontier; the value of these posts is rather discounted by the fact that their garrisons are periodically inspected in shooting with bows and arrows.

Instruction of infantry in the attack and defence of fortresses.—The attack should be divided into 3 parts. First part is entirely an infantry business; in this phase, a line of observation is established, and reconnaissances are carried out. Second part, mainly infantry, the operations being purely field; in this phase the enemy is driven out of his advanced positions. Third part, purely artillery; in this phase the artillery is established, and the infantry have no rôle beyond protecting the artillery and furnishing working parties.

The defence should be active and the defender should always be looking out for opportunities to assume the offensive; he should take advantage of his superior local knowledge to make constant sorties, especially by night. Obstacles should be freely used, and arrangements made to cover the obstacles with fire, especially by night.

The organisation of Expeditionary Force in China, 1900-01.—Deals with supplies generally and in particular with the system adopted by water, rail and road of forwarding them to the troops. The question of drinking water is touched on, clothing and pay of the different detachments is given. In conclusion the author considers that much valuable experience was gained, which will without fail be made use of in the future.

March.

The war of 1854-55 in the Gulf of Finland—(conclusion).—This article is mainly interesting from the account it gives of the loyalty of the main portion of the Fins to Russia. The outsider may be permitted to ask what have they gained by it, in the light of recent events in Finland.

The strength and composition of a modern fleet (continuation).—This article treats of various types of war vessels, battleships, coast defence battleships, cruisers (armoured and unarmoured), and torpedo boats; in each case the armament is touched on. The advantage of using balloons and kites for observing is mentioned.

Remarks on the Austrian infantry (continuation).—In this article courts-martial, discipline and punishments generally are treated of. The article concludes with a sketch of the interior economy of an Austrian infantry regiment. One is strongly impressed with the immense amount of clerical work there must be in the army.

Horse-breeding in the Turgaiski Province.—This article gives a short opening account of the province in which there are 606,818 horses of all sorts, and gives a detailed account of the system or rather want of system the natives pursue in their horse-breeding operation, the result being that many thousands are lost yearly.

Morocco.—This is a long article, its main interest lies in its last two chapters XI and XII, which deal with the armed forces of the country and its political relations with European powers, and *en passant*, what the aims of France, Germany and Great Britain are in Morocco.

Foreign military review.—In this article the question now raised in England regarding our food supply is gone into. It is mainly a critique of a lecture given by Captain Murray in the Royal United Service Institution, London.

Turkestan Gazette, 16th-29th March 1903.—Fortified points, in the territories of China, Persia and Afghanistan, bordering upon the (Russian) Military District of Turkestan.

A lecture given before the General Staff, Tashkent, on the 20th March, by Lieutenant-Colonel L. G. Korniloff.

After briefly describing the organization, armament and training of the Chinese troops, stationed in the province (Sin-Tsian) the lecturer came to the conclusion that they are quite unfit for field operations.

As to the Persian troops Colonel Korniloff pointed out that, notwithstanding their large numbers, these troops are also of small use for field operations owing to their being badly armed, trained, and to their general unpreparedness.

The lecturer referred to the Afghan army as the most important opponent to Russian troops. The greater part of the Afghan army however, is quartered in peace time on the South-East districts of Afghanistan, which gives reason to expect, during the first period of a possible war, not field operations, but operations against fortified posts.

After describing the most important fortified posts of the Ili district and of Chinese Turkestan, the lecturer remarked that the fortifications, in those parts, are numerous, but placed without any underlying appreciation of the strategic significance of points covered by them. The majority of fortifications appear to be merely "points d'appui" in the event of a rising on the part of the local population : almost all the fortifications are very unsatisfactorily placed. In planning them, the most obvious principles of fortification have been broken. The only strong point in Chinese fortifications is the massiveness of their works.

Passing to a sketch of the fortified posts of Eastern Persia, the lecturer remarked, that with the Russian pacification of the Turcomans both the Government and population of Persia had ceased to trouble themselves about the maintenance of their former fortifications, of which very few retained any military importance.

Among these latter, the lecturer described in detail the fortress Kelat-i-Nadiri, which lies on the road from the railway station Kaahka to Meshed. Having remarked that Lord Curzon had expressed an opinion in favour of the possibility of making Kelat-i-Nadiri a base for active operations against the Trans-Caspian province, the lecturer came to the conclusion that in the present condition of the armed forces of Persia, such operations are hardly probable, but that, none the less, Kelat-i-Nadiri might serve as a "point d'appui" for raids directed against the Central Asian Railway.

After pointing out the strategic importance of Seistan, and the fact that in its very essence Seistan forms a large natural fortress, the lecturer described in detail the fortifications of Nasratabad, the chief town of Seistan, and remarked on the advantages the British would secure, in making themselves the masters of Seistan and of its reduct.

Passing to a description of the Afghan fortresses, Colonel Korniloff said that the disposition of the most important fortified points of the country apparently corresponded with the scheme for the defence of India on the territory of Afghanistan, which is recognised as best by English military authorities. After expounding the improvements and additions, which have been carried out by the Afghans in the defensive works of Herat, on

the plans of English engineers, the lecturer came to the conclusion, that, notwithstanding all these improvements and additions the works of Herat suffer from very important deficiencies which considerably lessen the power of resistance of this fortress.

In the opinion of the lecturer, the fortress Deh Dadi, near Mazar-i-Shorif, offers a much more serious obstacle ; in its plan the influence of contemporary European fortification is clearly seen.

The lecturer, after indicating the methods of attack, employed by the Russians in their conquest of Central Asia, came to the conclusion that the best method of operations against the fortifications referred to must be recognized to be a sudden assault, on the model of the seizure by storm of Geok Tepe.

The lecture was illustrated by a number of maps, detailed plans and photographs, which materially contributed to the brilliant success of the lecture, which held the attention of a numerous audience with the General Officer Commanding at its head.

UNITED SERVICE INSTITUTION OF INDIA.

NOTICE.

It is notified for information that the annual award of premia for articles contributed to the Journal has been increased to Rs. 1,500.

The Council will be glad to receive, and consider for publication in the Journal, papers on the following subjects, and any others of military interest :—

1. The tactical employment of Field Artillery and Mountain Artillery with Infantry.
2. The rôle of Infantry in defence of coast fortresses and defended ports.
3. Comparative study of systems of military administration of three great Powers as compared with our own in India.
4. The consideration of the equipment (excluding arms and ammunition), baggage, food, and shelter, necessary for men and horses in war under varying conditions, with a view to maintaining their health and efficiency and reducing unnecessary impedimenta.
5. The value in the Field of a highly mobile force, specially organized with a view to distant raids, its training, organization and equipment.
6. The difficulties imposed by smokeless powder and long range weapons on reconnaissance of an enemy's position in particular, with suggestions for meeting the same.
7. The tactical employment of Pompoms and Machine Guns with :—
 - A. Cavalry.
 - B. Mounted Infantry.
8. The most suitable method of training British and Native Soldiers as Despatch Riders and Field Messengers.
9. The best way of training officers for employment as Railway Staff Officers more especially on Indian Railways.

By order of the Council,

R. G. BURTON, *Major,*
Secretary, United Service Institution of India,
Simla.

Prize Essay Gold Medallists.

- 1872.....ROBERTS, Lieut.-COL. F. S., V.C., C.B., R.A.
 1873.....COLQUHOUN, Capt. J. A. S., R.A.
 1874.....COLQUHOUN, Capt. J. A. S., R.A.
 1879.....ST. JOHN, Maj. O. B. C., R.E.
 1880.....BARROW, Lieut. E. G., 7th Bengal Infantry.
 1882.....MASON, Lieut. A. H., R.E.
 1883.....COLLEN, Maj. E. H. H., S.C.
 1884.....BARROW, Capt. E. G., 7th Bengal Infantry.
 1887.....YATE, Lieut. A. C., 27th Baluch Infantry.
 1888.....MAUDE, Capt. F. N., R.E.
 YOUNG, Maj. G. F., 24th P. I. (specially awarded a silver medal).
 1889.....DUFF, Capt. B., 9th Bengal Infantry.
 1890.....MAGUIRE, Capt. C. M., 2nd Cav., Hyderabad Contingent.
 1891.....CARDEW, Lieut. F. G., 10th Bengal Lancers.
 1893.....BULLOCK, Maj. G. M., Devonshire Regt.
 1894.....CARTER, Capt. F. C., Northumberland Fusiliers.
 1895.....NEVILLE, Lieut.-Col. J. P. C., 14th Bengal Lancers.
 1896.....BINGLEY, Capt. A. H., 7th Bengal Infantry.
 1897.....NAPIER, Capt. G. S. F., Oxfordshire L. I.
 1898.....MULLALY, Maj. H., R.E.
 CLAY, Capt. C. H., 43rd Gurkha Rifles (specially awarded a silver medal).
 1899.....NEVILLE, Col. J. P. C., S.C.
 1900.....THUILLIER, Capt. H. F., R.E.
 LUBBOCK, Capt. G., R.E., (specially awarded a silver medal).
 1901.....RANKEN, Lieut.-Col. G. P., 46th Punjab Infantry.
 1902.....TURNER, Capt. H. H. F., 2nd Bengal Lancers.
 1903.....HAMILTON, Maj. W. G., D.S.O., Norfolk Regt.
 BOND, Capt. R. F. G., R.E. (specially awarded a silver medal).

MacGregor Memorial Silver Medallists.

- 1889.....BELL, Col. M. S., V.C., R.E. (specially awarded a gold medal).
 1890.....YOUNGHUSBAND, Capt. F. E., K. Dn. Gds.
 1891.....SAWYER, Maj. H. A., 45th Sikhs.
 RAMZAN KHAN, Havildar, 3rd Sikhs.
 1892.....VAUGHAN, Capt. H. B., 7th Bengal Infantry.
 JAGAT SINGH, Havildar, 19th P. I.
 1893.....BOWER Capt. H., 17th Bengal Cavalry (specially awarded
 a gold medal).
 FAZALDAD KHAN, Dafadar, 17th B. C.
 1894.....O'SULLIVAN, Maj. G. H. W., R.E.
 MULL SINGH, Sowar, 6th B. C.
 1895.....DAVIES, Capt. H. R., Oxfordshire L. I.
 GUNGA DYAL SINGH, Havildar, 2nd Rajputs.
 1896.....COCKERILL, Lieut. G. K., 28th Punjab Infantry.
 GHULAM NABI, Private, Q. O. Corps of Guides.
 1897.....SWAYNE, Capt. E. J. E., 16th Rajput Infantry.
 SHAHZAD MIR, Dafadar, 11th B. L.
 1898.....WALKER, Capt. H. B., Duke of Cornwall's L. I.
 ADAM KHAN, Havildar, Guides Infantry.
 1899.....DOUGLAS, Capt. J. A., 2nd B. L.
 MIHR DIN, Naik, Bengal S. and M.
 1900.....WINGATE, Capt. A. W. S., 14th B. L.
 GURDIT SINGH, Havildar, 45th Sikhs.
 1901.....BURTON, Major E. B., 17th B. L.
 SUNDER SINGH, Colr. Havildar, 31st Burma Infantry.
 1902.....RAY, Capt. M. R. E., 7th Rajput Infantry.
 TILBIR BHANDARI, Havildar, 9th Gurkha Rifles.
 1903.....MANIFOLD, Lieut.-Col. C. C., I.M.S.
 GHULAM HUSSAIN, Dafadar, Guides Cavalry.

Supplement to the Journal

OF THE

United Service Institution of India.

VOL. XXXII.

JULY 1903.

NO. 152.

GOLD MEDAL ESSAY.

A review of our system of military education and training of regimental and staff officers, and suggestions for its practical improvement.

BY MAJOR W. G. HAMILTON, D.S.O., NORFOLK REGIMENT.

Motto :—"Nihil sine labore."

"The object of education after all is character. The quality most useful and most valuable to society is the faculty of forming a right judgment, and this faculty can only be developed by the discipline which comes from methodical study." * So spoke one of the most earnest of modern educationalists, the late Bishop Mandell Creighton, touching technical education, and these words apply with identical force to the technical instruction and training of officers of the army, otherwise termed "military education." We look therefore to military education, in its widest meaning, to develop in our officers that right judgment in all things which, converted into right action by force of character, shall eliminate in large measure those elements of failure which at times thrust themselves only too obtrusively on public notice. It is not, of course, suggested that perfection can be attained except in rare instances, or that failure can ever be rendered impossible; account must be taken of the limitations of human nature, of diversities of talent, physical and mental, and of those chances beyond human control, commonly called "luck"; but much can be done by systematic instruction and by methodical study. Though success cannot be commanded, it may at least be deserved.

Prefacing, then, that I use the term "education" in the most comprehensive sense, the sense in which it is used by all modern and many ancient educational authorities, and include therein instruction and training, theory and practice, I propose to consider—What is our

* Address on "Technical Education" by Bishop Mandell Creighton, from "Thoughts on Education" edited by Louise Creighton.

present system of military education of officers? How far is the system calculated to attain the ideals set forth, the reasons for its shortcomings which may appear, and how improvement may be effected. The case of regimental officers will first be considered, and afterwards that of officers of the staff.

PART I.

REGIMENTAL OFFICERS.

The preliminary education of the young man before he becomes a regimental officer—the "preliminary" and the "intermediate" education—was in Parts I and II of the report of the Committee on Military Education, 1912, all important subjects. It is, I think, outside the scope of the present enquiry. This subject was exhaustively discussed by the Committee in 1912, while many of their most important recommendations have since been acted on. Whether we may agree or not, it is waste of time now to discuss the accomplished fact.

I do propose, however, in the following pages to go over the ground covered by Part III of the Committee's report on the military training of the young officer. It will, I think, be found that this portion of the subject was not only somewhat exhaustively dealt with by the Committee, but also that some of the conclusions arrived at were, to say the least, open to argument. Again, as regimental officers are powerless to influence the whole of the policy of the nation, and a discussion on preliminary education therefore have for them little more than an academic interest, the training of himself and his brother officers is a sacred trust placed in the hands of every officer in the service, and by his exertions alone can improvement be effected.

As a result of the Committee's report, it may perhaps be reasonably anticipated that in future young officers will be found more possessing at least a fair general education, and with intelligence, judgment, and character developed in some degree. We may also expect that the majority of young officers will be better educated, adequately grounded in drill, in discipline, and in the rudiments of military knowledge. It is unfortunately no secret that some of the raw material received in the last two years has been very poor, and in a few cases so deficient in general education that the basis on which to rear the culture of technical education has been feeble to a degree. This state of affairs may, however, be regarded as exceptional, and can hardly be permitted to recur. The evil has been mitigated to some extent by the order passed in 1913 requiring officers who have passed no tests in general knowledge to take themselves proficient in the three "I's" at least, and also by the arrangements made for the instruction of special parts in classes, and for joining without military knowledge. Nevertheless, the fact remains

that a certain strain of ignorance, however slight, does exist at the present moment, and in some cases may persist for years, for deficiencies in early education are but seldom made good in manhood. This blot has added difficulties to a system of military education already by no means perfect.

Responsibility of the commanding officer.—From the moment an officer joins his regiment, until he becomes a commanding officer himself, the responsibility for his military education in every particular rests with his commanding officer and with him alone. The regulations * on this subject admit of no question. It is specifically ordered that the commanding officer shall instruct his officers in regimental duties, drill, military law, field fortification, military topography, engineering, and all duties in the field. He must also teach them by means of war games, lectures and practical schemes of all kinds, and finally he must ever bear in mind that his officers must not merely be instructed but educated to the attainment of the highest ideals. Their characters must be formed and strengthened, they must be trained to be resourceful, sound in judgment and prompt in decision—a consummation, indeed, devoutly to be wished for.

The mainspring then of our whole system of military education is the regimental commanding officer. On his efficiency, not merely as a possessor, but also as an imparter, of knowledge, and as an organizer of instruction, depends in a large measure the efficiency of the regimental officers, and hence the efficiency of the whole army.

Bearing in mind that the military education of as many as 25 officers of all ages, of all varieties of character and intellect, is but one, though one of the most important duties of a commanding officer, let no man under-estimate his task, or be too ready to cast the stone of reproach if perfection is not always attained. It must be remembered too that much of the time of all officers, especially perhaps in the British service, is occupied in peace time with work connected with administration and interior economy, work which at the best has little bearing on war training, and at the worst is often as futile as it is distasteful to the keenest and best officers. The commanding officer can reckon, it is true, on assistance from his second-in-command and from his captains, and much is effected through the agency of garrison classes and private study, but the commanding officer alone is the true director of officers' education, held accountable for their failures, and, let us hope, receiving some credit for their success. With this principle I am entirely in accord.

Present system of regimental education.—When we come to consider the practical application of this general principle, it can hardly be said that there is, under present conditions, any definite "system" of regimental education. The commanding officer has to produce

* King's Regulations, paragraphs 676 678, 1058 and 1059.

MacGregor Memorial Silver Medallists.

- 1889.....BELL, Col. M. S., V.C., R.E. (specially awarded a gold medal).
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GOLD MEDAL ESSAY.

A review of our system of military education and training of regimental and staff officers, and suggestions for its practical improvement.

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Motto :—"Nihil sine labore."

"The object of education after all is character. The quality most useful and most valuable to society is the faculty of forming a right judgment, and this faculty can only be developed by the discipline which comes from methodical study." * So spoke one of the most earnest of modern educationalists, the late Bishop Mandell Creighton, touching technical education, and these words apply with identical force to the technical instruction and training of officers of the army, otherwise termed "military education." We look therefore to military education, in its widest meaning, to develop in our officers that right judgment in all things which, converted into right action by force of character, shall eliminate in large measure those elements of failure which at times thrust themselves only too obtrusively on public notice. It is not, of course, suggested that perfection can be attained except in rare instances, or that failure can ever be rendered impossible; account must be taken of the limitations of human nature, of diversities of talent, physical and mental, and of those chances beyond human control, commonly called "luck"; but much can be done by systematic instruction and by methodical study. Though success cannot be commanded, it may at least be deserved.

Prefacing, then, that I use the term "education" in the most comprehensive sense, the sense in which it is used by all modern and many ancient educational authorities, and include therein instruction and training, theory and practice, I propose to consider—What is our

* Address on "Technical Education" by Bishop Mandell Creighton, from "Thoughts on Education" edited by Louise Creighton.

present system of military education of officers? How far is this system calculated to attain the ideals set forth, the reasons for any shortcomings which may appear, and how improvement may be effected. The case of regimental officers will first be considered, and afterwards that of officers of the staff.

PART I.

REGIMENTAL OFFICERS.

The preliminary education of the young man before he becomes a regimental officer—the “antecedent” and the “intermediate” education—dealt with in Parts I and II of the Report of the Committee on Military Education, 1902, all important though it be, is, I think, outside the scope of the present enquiry. This portion of the subject was exhaustively discussed by the Committee referred to, while many of their most important recommendations have already been acted on. Whether we may agree or not, it is waste of time now to discuss the accomplished fact.

I do propose, however, in the following pages to go over some of the ground covered by Part III of the Committee's report, “The military training of the young officer.” It will, I think, be agreed that this portion of the subject was not only somewhat inadequately dealt with by the Committee, but also that some of the conclusions arrived at were, to say the least, open to argument. Again, while regimental officers are powerless to influence the whole educational policy of the nation, and a discussion on preliminary education can therefore have for them little more than an academic interest, the training of himself and his brother officers is a sacred trust which lies in the hands of every officer in the service, and by his exertions alone can improvement be effected.

As a result of the Committee's report, it may perhaps be reasonably anticipated that in future young officers will join their corps possessing at least a fair general education, and with intellect, judgment, and character developed in some degree. We may perhaps also expect that the majority of young officers will before joining be adequately grounded in drill, in discipline, and in the rudiments of military knowledge. It is unfortunately no secret that some of the raw material received in the last two years has been very raw indeed, in a few cases so deficient in general education that the necessary basis on which to rear the edifice of technical education has been feeble to a degree. This state of affairs may, however, be regarded as exceptional, and can hardly be permitted to re-occur. The evil has been mitigated to some extent by the orders passed in India requiring officers who have passed no tests in general knowledge, to show themselves proficient in the three R's at least, and also by the arrangements made for the instruction at special garrison classes of those joining without military knowledge. Nevertheless, the fact remains

that a certain strain of ignorance, however slight, does exist at the present moment, and in some cases may persist for years, for deficiencies in early education are but seldom made good in manhood. This blot has added difficulties to a system of military education already by no means perfect.

Responsibility of the commanding officer.—From the moment an officer joins his regiment, until he becomes a commanding officer himself, the responsibility for his military education in every particular rests with his commanding officer and with him alone. The regulations * on this subject admit of no question. It is specifically ordered that the commanding officer shall instruct his officers in regimental duties, drill, military law, field fortification, military topography, engineering, and all duties in the field. He must also teach them by means of war games, lectures and practical schemes of all kinds, and finally he must ever bear in mind that his officers must not merely be instructed but educated to the attainment of the highest ideals. Their characters must be formed and strengthened, they must be trained to be resourceful, sound in judgment and prompt in decision—a consummation, indeed, devoutly to be wished for.

The mainspring then of our whole system of military education is the regimental commanding officer. On his efficiency, not merely as a possessor, but also as an impartor, of knowledge, and as an organizer of instruction, depends in a large measure the efficiency of the regimental officers, and hence the efficiency of the whole army.

Bearing in mind that the military education of as many as 25 officers of all ages, of all varieties of character and intellect, is but one, though one of the most important duties of a commanding officer, let no man under-estimate his task, or be too ready to cast the stone of reproach if perfection is not always attained. It must be remembered too that much of the time of all officers, especially perhaps in the British service, is occupied in peace time with work connected with administration and interior economy, work which at the best has little bearing on war training, and at the worst is often as futile as it is distasteful to the keenest and best officers. The commanding officer can reckon, it is true, on assistance from his second-in-command and from his captains, and much is effected through the agency of garrison classes and private study, but the commanding officer alone is the true director of officers' education, held accountable for their failures, and, let us hope, receiving some credit for their success. With this principle I am entirely in accord.

Present system of regimental education.—When we come to consider the practical application of this general principle, it can hardly be said that there is, under present conditions, any definite "system" of regimental education. The commanding officer has to produce

* King's Regulations, paragraphs 676 678, 1058 and 1059.

certain results, but the method adopted is left to him, and this method may vary in each case from a minimum of perfunctory and vicarious instruction to a high standard of education in everything that makes an officer, by personal instruction, and by personal example, the most potent factor in guiding the lives of others.

That the standard of education is unequal, that the results obtained are not always satisfactory, may, I think, be agreed. Nevertheless, I am far from being a pessimist on this subject. Our army is fortunate in possessing many officers of all grades, educated in the highest sense, and capable of any task. For such as these some credit must be given to present methods of regimental education. The conditions which obtain in each and every corps are, I think, seldom known even to those in high authority, and, under any circumstances, any general argument based on the facts of a few particular cases is, as always, fallacious and probably misleading.

The proceedings of the Committee on Education seem to reveal a low standard of regimental education, nevertheless, there will be found many who have never bowed the knee to the Baal of indifference and neglect. The insertion here of a personal experience may not be out of place. As a newly joined officer I received, with others, daily personal instruction from my colonel both on and off parade, besides much valuable advice and information on military subjects. Nevertheless this colonel rose to no higher command, and died unknown to fame. Again, in after years, a regimental captain gave me my first real grounding in military topography and practical tactics, and later afforded me much assistance in self-education on a higher plane. He too has left the service, and lives "unhonoured and unsung" except by those privileged to know and love him. There must be many such as these, unhonoured, perhaps unknown, but men, nevertheless, striving honestly to the best of their power, and with some measure of success, to educate the officers committed to their care.

Causes of present defects.—My experience leads me to believe that most of the shortcomings in regimental, and even in higher military education—given the desire to educate and the desire to receive education, which I believe may generally be assumed—are mainly due—

- (1) to want of knowledge of how to teach ;
- (2) to want of organization of instruction ;
- (3) to want of practice.

How to teach.—To take the first case. It is fully recognised in the education of the present day that teaching is an art which, based on certain psychological facts, must follow definite rules to achieve satisfactory results. With a few men teaching is intuitive, but with the majority instruction in the art of teaching is essential before the

teacher is qualified to educate others. Nevertheless, although an officer must be, throughout his career, the instructor of those under him, he never to my knowledge has put before him in theory, and seldom hears illustrated in practice, the few simple rules that govern the conveyance of practical knowledge from one mind to another. And yet these principles are carried into effect by every regimental school-master, with surprising results not only in increase of knowledge, but in reasoning power, and in true education in the hands of a competent teacher. The theory and practice of educating others is certainly a subject in which every young officer should be instructed before, and perfected after, joining his corps. The foundation being firmly laid practice will make perfect, and officers of all ranks will in time become, what too few are at present, competent instructors.

The rules of teaching.—The most important of the rules of teaching briefly stated are—

1. Study individual characteristics. Give every man as much individual instruction as possible.
2. Every means of arousing interest in work to be fully employed (a principle at least as old as Erasmus). To secure the interest of thinking men it is at least essential to make it clear that the knowledge imparted has some real value.
3. Theory and practice must go hand in hand.
4. Work from the known to the unknown. Lay a sure foundation and build gradually thereon.
5. Give reasons, and encourage your pupils to do the same.
6. Beware of encouraging memory at the expense of judgment. For this reason "learning by heart" has its dangers as well as its advantages. "To learn by heart," it has been said, "is to atrophy the brain." "The teacher must endeavour to turn out, not a mind crammed with ill-digested and unnecessary facts, but a mind with the reasoning and judgment well developed." *
7. "Strength of memory depends on attention, and attention depends on interest." (Herbert Spencer).
8. Mingle catechism with instruction, instruction with catechism, and illustration with both.
9. Oft repeat.
10. Last, but not least, know your subject thoroughly and teach extempore if possible. As Dean Hole says, in his autobiography, regarding extempore preaching, How can you expect others to remember what you can't remember

* "Pupil Teachers and Scholarship School Management by A. T. Flux, 1897," in use in British army schools.

yourself. This too has a great educative value for the teacher himself, for nothing makes one learn a subject more thoroughly than having to teach it by word of mouth.

Subjects, how classified.—It should be noted here that subjects of military instruction fall into two distinct categories, first, those practical subjects which not only have a direct bearing on war training, but which, when properly treated, serve to strengthen reason, judgment, and character, and are therefore of the highest educational value; second, those subjects which, though useful and even necessary, are largely a matter of memory only, afford little or no scope for the exercise of reason and judgment, and stand therefore on a distinctly lower plane. In the first category come drill, and tactical instruction of all kinds, including field engineering, military topography, reconnaissance, transport duties, camping and such like. In the second category come law, military administration, and organization and equipment as at present taught. The recognition of the fundamental difference between these two classes of subjects appears to me a vital principle in any educational system. Nevertheless, I do not find that the difference is authoritatively and sufficiently recognised, either in the proportion of marks allotted to the several subjects in examinations, or otherwise.

Illustration of how to teach—I will now give one concrete example of how the rules above given may be applied in practice to regimental instruction in one of the subjects in the first category. The subject selected is, let us say, "the defence of a position." Publish the subject as long as possible beforehand, and give the paragraphs in the drill and text books bearing on the subject. Officers will be expected to read these up and be prepared to answer questions thereon. The class having collected, let them seat themselves comfortably, without lounging or slackness. Allow smoking. Tobacco stimulates some men's brains, it puts minds at ease, and at any rate prevents yawning. Then take the official book as a "text" for the lesson, ask questions both directly therefrom and as to reasons for certain rules. Discuss and elucidate the statements in the text book by reference to other literature on the subject. Illustrate the subject by reference to actual defensive positions, including questions as to what modifications might have been advisable under more recent conditions of armament, etc. Rough sketches on a black board are useful, and if actual plans are available on any scale, they can be shewn to the class. Officers should be encouraged to give any parallel cases they may have read of, or of which they have personal knowledge. Encourage discussion and let questions be freely asked by any one on any points which occur to them. This theoretical instruction should not last too long, or attention will flag. Between half-an-hour and an hour is about the right duration, one hour being the outside limit. Details are best illustrated and explained on actual ground.

The next phase is to set a scheme on the same subject, dealing with actual ground. If the illustrations referred to in the lecture can

be drawn from examples on somewhat similar ground, so much the better. The class should go out either at once, or next day, the sooner the better, and decide how they would occupy a certain position under fairly simple and well-defined conditions as to time and troops available. Nothing too ambitious should be attempted, especially as one of the principal objects is to ground officers in the details of their work as regimental officers. It is advisable for the instructor to accompany officers who have not had much practice, and assist their judgment, giving the reasons for action recommended. Subsequently, and always in the case of senior officers, they are better left to form their own decisions. I am much in favour of all schemes being, as a rule, thought out, stated, and criticised on the ground, and the subject dismissed for the day. The habit for rapid decision is of the first importance to an officer; besides which, to have work hanging over one from day to day is irksome and apt to engender distaste instead of interest. It is necessary, however, that schemes shall occasionally be committed to writing in full detail as an exercise in clear and concise expression.

The final phase of instruction, which should be carried out whenever possible, is the occupation and defence of the selected position by actual troops, thus imparting a reality to the instruction which mere paper work can never do. It has the added advantage that the officers are now prepared to instruct their men on the same subject, and to explain the reasons which have led to their being placed in certain positions. It will be evident that much practical instruction in many directions can be imparted whenever troops are employed in illustrating a scheme. For instance in the case we are now considering, one or more officers can be directed to draw out beforehand orders for the occupation of the position, which will be acted upon by the troops, others to prepare sketches of the ground, which will be made use of in the same way. If any orders are omitted, or wanting in clearness, or the sketches inaccurate, these shortcomings, and the inconvenience arising therefrom, will become manifest directly actual troops are introduced into the case. It is the unreality of so many schemes which encourages faking and eye-wash at the expense of sound though possibly less showy work.

Phases of instruction.—It will be seen that I divide instruction on all practical subjects into three phases :—

- (1) theoretical explanation of general principles ;
- (2) application of principles to a particular case ;
- (3) practical illustration of (2) by a definite operation of war.

Phases (1) and (2) should invariably be combined. Phase (1) may be considerably curtailed if those under instruction have fully grasped the principles of the subject and have had practice in applying them, but I prefer never to omit it altogether. A quarter of an hour or so is well spent in recapitulation, questions and discussion.

It is highly advantageous to complete the instruction with (3) whenever feasible. For this reason I am unable to find myself entirely in agreement with the opinion expressed in the Annual Report of the Director of Military Education in India, dated 10th March 1902, that "the practical application of principles can best be taught at garrison classes." Seldom indeed can the instruction at garrison classes be conducted to its logical conclusion by the use of actual troops, whereas this presents few difficulties regimentally. Every garrison field day, moreover, observed and criticised, affords means of instruction in the tactics of the three arms, while, by arrangement between commanding officers, and without any formal "attachment," a day or two spent in company with another arm of the service, will afford a better insight into their battle training than a mere study of their drill books, which however must not be neglected. It is very probable that these subjects *are* at present better taught at garrison classes, but considering the advantages which can usually be availed of in regimental instruction, the facts ought to be the other way about. I feel sure that a few definite schemes worked out in theory and in practice on the lines suggested have a real educational value, a value considerably higher than that obtainable from detached and isolated instruction by lectures, schemes, and tactical exercises separately.

Non-educational subjects.—It remains to consider the best method of teaching what must be termed the non-educational subjects in the 2nd category. Such instruction can only be theoretical, while ordinary routine duties supply the practical application. There is little scope for teaching in these subjects; officers can, and must, learn them up for themselves, and the commanding officer can do little more than satisfy himself by general supervision, and periodically by oral and written examinations, that officers have a competent knowledge of them. It is a mistake to occupy too much precious time in such theoretical instruction. A knowledge of the price of necessities, or of the rules of evidence, never yet won a battle, and a commanding officer will always judge the capabilities of an officer by the way he carries out his routine duties and looks after his men rather than by his nimbleness in answering conundrums. It is impossible to condemn the present tests in "organization and equipment" in stronger terms than those used by the Director of Military Education in India in his Report of the 10th March 1902—"At present largely a crammed subject, a matter of memory in learning a mass of details which are of little practical use." Presumably after this expression of opinion some drastic changes may be expected in the method of examining in this subject, especially as the scope of these examinations seems in India to be considerably wider than that contemplated by Appendix VII of the King's Regulations. A good general knowledge of the subject should meet all requirements, the details change with such kaleidoscopic rapidity that no one in actual practice would think of dealing with these details without verifying them by reference to the latest regulations corrected up to date. Something

has already been done by extending the use of books of reference at examinations, but the principle thus acknowledged requires further extension.

Organisation of instruction.—The commanding officer, as has already been noted, is a man of many responsibilities and of many masters. The fact must be recognized that it is impossible for him, without neglecting his other duties, to undertake in person all, or even a tithe, of the theoretical and practical work involved in a sound system of regimental education. Officers of all ranks are, moreover, constantly on the move: duty with detachments, classes of instruction of all kinds, and necessary leave, call officers away from head-quarters and seriously interrupt that thorough and gradually progressive instruction which is so necessary, especially in the case of younger officers.

It is the consciousness of these drawbacks, of the difficulties which so often surround endeavours to carry out a definite system, which I think tends to discourage many commanding officers from taking up the subject "con amore," with the result that regimental education is too often unsystematic, desultory, and consequently unsatisfactory. It may perhaps be suggested also, without disparaging the zeal and hard work which are the characteristics of most commanding officers, that in some cases the want of early training in imparting instruction causes the work of teaching to be delegated more than is desirable to those whose position and experience carry less weight. It lies with the commanding officer to organize a definite system of regimental education, adapted to circumstances, and to supervise its execution, but besides this it is very desirable, if only for the sake of example, that a commanding officer should take a leading and personal part in regimental instruction. The commanding officer may be likened to the head master of a school, who in addition to organizing and supervising generally will himself instruct in higher subjects, and occasionally take the lower classes as well. The commanding officer may well look to his second-in-command to undertake the chief share in officers' instruction; but, unfortunately for him, the Army List shows that in many cases the 2nd-in command, when not temporarily commanding the corps, is away on long leave, or extra-regimental employment.

In considering how regimental instruction may be systematically arranged for, I shall take the case of a British infantry battalion, as it is the one which presents typical opportunities as well as typical difficulties, owing to the number of officers in various stages of education. The number of young officers too is usually large, including as it often does half a dozen officers attached for the Indian army. The officers may roughly be classified in accordance with the various promotion examinations which they have passed, ranging from majors going in for "tactical fitness" to 2nd-lieutenants with little or no military education. All these classes benefit most by separate attention, though it is often necessary, and even unob-

jectionable, to instruct several classes together.

Preliminary grounding.—It is an excellent, and in most corps a well established custom to take officers in hand at once on joining, and ground them thoroughly in drill and regimental duties, causing them to qualify in turn in everything which a private, a corporal, and a sergeant must know. During this time, in every good corps, the young officer becomes imbued with a sense of duty, of discipline, and of what is expected of him as an officer both in official and private life. The example of his seniors is the potent factor in this education, for which cause the 'form' or 'tone' of any corps remains the same for generations though all else be changed. Following the statements of some witnesses, the Committee on Officers' Education were apparently of opinion that the majority of young officers will not work unless compelled, that keenness is discouraged, and that the fashion is to do as little as possible. It has been pointed out by abler pens than mine that the most forcible evidence on this point was hearsay, and it has been rightly urged that so far-reaching and deeply important statements should have been substantiated by ample direct evidence, and the witnesses subjected to a searching cross-examination. If such a state of affairs is established as existing in any one corps, the remedy is simple. Let the commanding officer and the senior officers be removed wholesale. Bad example can alone produce such bad results. The only remedy for the malignant cancer of professional indifference is the complete excision of the diseased members from the body politic. But I am convinced that to say that slackness, ignorance, and discouragement to work are the common characteristics of all, or of the majority of corps, is pure clap-trap. Personal knowledge of actual facts in more than one corps leads me to an exactly contrary opinion. I do not deny that the tone of different corps varies, and may vary for the worse, but it should not be difficult for those in power to ascertain where slackness is the rule, where zeal is discouraged, and treat the disease with severe and drastic remedies.

The education of officers is, I admit, far from perfect, but such shortcomings as exist are due, in my opinion, far more to ignorance than to vice. The desire to do well by young officers, and the desire on their part to do their best, is infinitely more common than the Education Committee seem to consider. Failure occurs rather in converting the will into deed.

A thorough and systematic grounding in detail, then, is the first essential in regimental education. The greatest misfortune that can happen to a young officer is to have this grounding slurred over, for not only is the knowledge so acquired indispensable to one who has to teach his men, but the character also is formed and strengthened by the necessity for application and accurate work, by discipline, and by the exercise of command. The captain of his company should under normal circumstances supervise much of a young officer's early training, but, as the Indian Army List shows, the real

Simon Pure is too often wanting and the very responsible position of company commander has to be filled in many cases by junior officers, occasionally with less than a year's service. To commit the laying of the foundations of education to one but half-trained himself is too risky a proceeding to be allowed, and the work must often be taken in hand by senior regimental officers, even by the commanding officer himself if need be. Early training is everything; as the twig is bent so will the bough grow.

Once an officer has thoroughly grasped the principles and practice of his duties as a company officer, the more he is left to work out his own salvation in this respect the better. I am no advocate for perpetual leading strings. Further education is best effected by a gradual leading on to higher things in the profession, by theoretical and practical instruction, by encouragement and direction of private studies, and above all by affording constant opportunities for the exercise of judgment and responsibility in things small and great. This has long been the theory, but is still far from being the invariable practice.

Systematic arrangement of regimental instruction.—The arrangements for instruction should, I suggest, be systematized somewhat on the following lines. The days of the week and other details noted are purely illustrative, though, when possible, it is always advisable to formulate and adhere to a regular monthly programme, suitable to circumstances and the time of year. Without a programme or syllabus, it is almost impossible to fit in the necessary instruction of officers with the numerous other duties connected with training and administration. I am only too well aware that the best arrangements are liable to be upset by causes beyond the power of the commanding officer, but even a modified or mutilated programme is better than none at all.

EXAMPLE

Programme of instructions for officers for the month of _____

Week.	Day.	Instructor.	Officers to be instructed.	Subject (to be named).
1st ...	Tuesday ...	Commanding officer.	All ...	Subject in tactics, field fortifications, &c., by lectures on the lines explained in this essay.

Week.	Day.	Instructor.	Officers to be instructed.	Subject (to be named).
1st ...	Saturday ...	Captain of the week.	Officers who have not passed for promotion to captain.	Military Administration, Law, Accounts, &c.; Catechism.
2nd ...	Tuesday ...	2nd-in-command...	Officers who have not passed for promotion to captain.	Military sketching and reconnaissance.
Do. ...	Saturday ...	Captain of the week.	Officers who have not passed for promotion to captain.	Drill, minor tactics and elementary practical work, catechism or simple lectures on the lines explained.
3rd ...	Tuesday ...	2nd-in-command	All ...	Subject in tactics, field fortification, &c., by lecture, &c.
Do. ...	Saturday ...	Captain of the week.	Officers who have not passed for promotion to captain.	Military administration, law, &c., catechism.
4th ...	Tuesday ...	2nd-in-command ..	Officers who have not passed for promotion to captain.	Subject in minor tactics, field fortification, &c. by lecture, &c.
Do. ...	Saturday ...	Commanding officer.	Officers who have passed for captain & seniors.	Tactical problems on maps.
	Do. ...	2nd-in-command ...	Officers who have not passed for captain.	Written examination in law, military administration, &c.

Once a quarter substitute in 1st week a lecture by the commanding officer or 2nd-in command on some battle or campaign, with tactical and strategical lessons to be learnt therefrom. The audience might include non-commissioned officers and men. Examples to be preferably taken from campaigns the regiment has served in, from battles fought on ground the men know (this is often possible in India) or from celebrated battles in English history. The thirteenth week which occurs every quarter is left open for any special instruction, or examinations, required.

From experience I find that often Sundays and Thursdays are the only days available for special tuition to candidates for promotion or tactical fitness. Not perhaps a very agreeable arrangement to teacher or taught, but necessity knows no holiday.

It must always be remembered too that the preparation of lectures and the connected practical instruction means a good deal of real work on the part of the instructor, even when he is accustomed to it, so much so that when there is a dearth of senior officers, the programme attempted may have to be considerably less ambitious than that indicated in the above syllabus. These main principles must, however, always be adhered to,—method in arrangement, and thoroughness in execution.

Want of practice.—In discussing the methods and organization of instruction I have laid stress on the fact that practice must be the concomitant of theory, and have made it clear, I hope, that no educational system is complete unless it provides for right knowledge being converted into a concrete form as right action. It only remains to consider whether officers in India have opportunities for the necessary practice, and if not, what is the remedy? *

Want of practice is an admitted evil in England, but as far as infantry officers are concerned it has been greatly remedied of late years. Aldershot, Salisbury Plain, and other large concentrations of troops, allow numbers of infantry to be trained throughout the year. Aldershot is much decried in certain quarters, and is often adjectivally used as synonymous with some false ideal of soldiering or red-tape custom. As regards infantry at least, the idea is a mistaken one. Would that we had in India those opportunities for training all ranks for twelve months in the year which Aldershot affords, more of that Aldershot freedom from administrative trivialities which occupy in India so much of the time and energies of officers of all ranks. Aldershot, in common with other camps in England, is wanting in proper facilities for training generals or mounted troops, but there is plenty of ground, and ample opportunities throughout the year, for company and battalion training. I speak from the experience of training a company at Aldershot as well as in the Punjab and Bengal Commands. I propose to confine myself, however, to the consideration of Indian conditions of tactical training. Are they adequate? Admitting that India affords ample scope for mounted troops, it must be recognized that the facilities afforded for the peace training of infantry officers fall far short of requirements. I am not unmindful of the facilities afforded in the Punjab with its grand cold weather, the advantages accruing from hill stations, and the good work done at several large garrisons throughout India, but unfortunately these advantages are far from universal. However necessary it may be from political reasons, infantry battalions are too often occupied in mere duties of watch and ward, too often quartered in stations where

* Officers' training is inseparably connected with the general training of troops, a subject which cannot be dealt with here. It is only possible therefore to touch on a few points more intimately connected with the present question.

the climate for eight or nine months of the year prevents them working far afield, to allow of adequate training. India may be for some, and might be for many more, the training ground of the British army, to use a stock phrase, but it is difficult to hold so optimistic an opinion in the face of actual facts. I could name one battalion at least which, after 13 years in India, until it took part in the Delhi Manœuvres, had never attended a manœuvre camp, and indeed had spent four years without even seeing the three arms together on parade. In such cases how can the opportunities for higher tactical education be considered adequate? What is to be thought of those financial or political exigencies which deny adequate range accommodation to almost all the troops in the Presidency District, and which year after year cause such a spot as the Maidan at Calcutta to be considered as "unknown and suitable" ground on which to camp for cold weather training? I would plead therefore for an attempt to break away from the rigid conditions of obligatory garrisons, at least for the cold weather, for adequate funds to enable corps necessarily quartered at stations where extended tactical training for all ranks is impossible, to be moved annually to suitable ground, however distant, and for every corps to attend a working camp of instruction of all arms at least every third year. I know the answer but too well,— "funds do not admit, etc."; but where the efficiency of officers, and through them of the army, is at stake, surely the game is worth the candle? The undoubted advantages enjoyed by corps in some parts of India, and often by the same corps for years together, must not blind us to the disadvantages under which too many, both British and Native, still labour. Space forbids the point being further elaborated. I plead only for a definite system whereby every single officer may be afforded those ample opportunities of practical training which the efficiency of the army demands, and I feel sure that such opportunities will be availed of to the full. The attachment of individual officers to other arms, to better stations, or to camps of instruction, palliates the present evil in some measure, but the removal of officers, the natural instructors of the men, during the drill season, entails grave disadvantages, and is at best but a poor substitute for that training for war, with the men they must lead in war, which is an essential complement of every officer's education.

It now remains to discuss a few subjects which, though not forming part of purely regimental education, have a direct bearing on the education of officers, and must therefore receive careful consideration.

Garrison Classes.—"To assist officers in their professional studies" as the King's Regulations put it, classes of instruction in military subjects are formed under special officers. Such classes are rightly intended as adjuncts to, and not as substitutes for, regimental instruction. In England such classes last only for 21 working days, in India for two months, practically double the time. The difference may be due to the fact that in native regiments the number of officers is so small, and all officers are so fully employed in regimental duties,

that adequate regimental instruction is no easy matter. But the longer course presents the great advantage that the instruction is not only more thorough, but admits of more advanced instruction being given than the mere passing of a qualifying examination demands. I should be sorry to see these advantages in any way curtailed. The high standard which has been attained at many garrison classes in India has proved of real benefit to the cause of military education.

Classes of garrison instruction in India fulfil two objects,—the first, to make good shortcomings in regimental instruction, the second, to afford that leisure and those opportunities for acquiring higher education which are difficult and sometimes impossible to secure under any system of regimental instruction. The first object should theoretically be non-existent; but having in view the difficulties which I have already referred to as surrounding regimental instruction, especially in corps of the Native army, it may not be possible entirely to eliminate it. Nevertheless, under a proper system of regimental instruction, I hold that this portion of the duties of a deputy assistant adjutant general for instruction should be regarded as exceptional, and should be reduced to a minimum. There is excuse for regimental instruction being inadequate in corps of the Native army, but little or none in the case of the British service. Nevertheless, the results of the examinations for promotion in 1901 show that the percentage of failures among officers of the British service is considerably higher than among officers of the Indian army, the British cavalry being abnormally below the standard—a state of affairs which seems to indicate something regrettably deficient in regimental education.

The main object of garrison classes should be, I consider, not rudimentary, but higher military education, to impart which the deputy assistant adjutant generals for instruction have proved themselves fully qualified. To give effect to this view, it is, I suggest, advisable that subalterns qualifying for promotion to captain should not attend the same classes as captains qualifying for their majority. Classes should be homogeneous, whereby the work of instruction would not only be simplified, but become more valuable to those under instruction. Provided regimental instruction is properly carried out, the number of subaltern officers who require to attend a garrison class should not be large, and of three classes assembled annually it should be sufficient to devote one to subalterns, or as an alternative, the senior officers might attend at centres where the deputy assistant adjutant generals for instruction are senior and more experienced, while the juniors were taught by the last appointed, or less experienced, instructors.

The case of officers who have attained the rank of captain is not, I consider, on the same footing as that of subalterns. In the case of the former, the necessity of passing an examination for promotion is not alone to be regarded. Something much higher must be aimed at. To officers of the rank of captain military education

on a higher range is essential, and besides revising and perfecting the knowledge previously gained, instruction is required in those higher branches of the profession in which every senior officer should be proficient. Such instruction should, I consider, be given to all officers of the rank of captain at garrison classes. It should include ample practical instruction in rapid sketching and reconnaissance, in working out schemes of all kinds dealing with considerable bodies of troops on the lines so admirably done in many cases already, though perhaps on even a more extended scale, and including "staff rides," and I should add also instruction in strategy, organisation, military history and geography, based on a critical study of one or more typical campaigns, both European and Eastern. A knowledge of the essential facts of such campaigns should of course be acquired before joining the class.

To ensure that officers are properly prepared for such a course and that the time of the instructor shall not be taken up with rudimentary instruction, which is not his duty, officers, in addition to (a) and (b) as at present, should be required to pass a preliminary examination by set papers, not of an advanced nature, before they receive permission to attend. Failure to pass such preliminary examination should entail serious consequences, primarily to the officer concerned, and secondarily to his commanding officer, unless strong reasons can be shown to the contrary. A subsequent examination I do not regard as of high importance. Provided the instructor of the class assures himself in the usual way by periodical or final examination that officers have worked steadily, and provided they pass an *efficient* examining board in practical work, on the present lines, I think that a general paper examination is apt to do more harm than good. The final cramming for an examination on which everything depends, is, in my idea, the worst feature of the present system of garrison instruction.

Let such a course as I have indicated be followed by attachment to other arms at instructional camps : a fortnight or so with each is, under such circumstances, sufficient, and by an early opportunity of seeing active service, if he has never had a chance before, and the officer may then be considered qualified for the rank of major. More than this, after practice in actual command of the three arms he should be able to qualify without fail in "tactical fitness for command."

It may be considered that I set the standard of education in the rank of captain too high, but my view is that every captain should have a good working knowledge of the higher branches of his profession, and be fully qualified to command small mixed forces in the field. Regimental captains have done so in the past, and in our service may often have the chance of doing so again. It is not only a mistake to leave such education until too late in life, but the slack or incompetent officer should be eliminated before reaching such seniority as to constitute, not only an incumbrance, but also a positive danger to the service.

Garrison lectures.—My views as to the best methods of regimental instruction by lecture have already been explained; but as general garrison lectures are enjoined, and a high educational value seemingly ascribed to them, by no less an authority than the Commander-in-Chief in India, this subject requires, I feel, separate and careful consideration. I propose to examine the orders* in question, not, it must be understood, in any spirit of captious criticism, but in that spirit of philosophic enquiry which the subject of this essay demands.

The official views on the subject, both as to the object to be attained, and the method of attainment, are clear. Briefly stated they are that, as officers are often found deficient in professional knowledge, and do not keep themselves up to date, this state of affairs is to be rectified by the delivery to all ranks of lectures on tactics and kindred subjects on the lines of those delivered at Aldershot and elsewhere in England. General officers commanding are to arrange for such lectures by specially selected officers, but if these specially selected officers are incapable of producing anything original, they may read papers prepared by others, which papers may or may not have been published. A discussion should invariably take place, and all officers off duty should attend.

The premises will be admitted. All officers are not up to standard in professional knowledge, but I am unable to agree that the remedy is to be found in listening to lectures. I do not deny that lectures have their value, in that they may arouse interest and stimulate original thought; but as the lecture, pure and simple, is wanting in many of those characteristics which I have endeavoured to show are essential to true education, it can never, even at its best, possess any high educational value. There are no short cuts to knowledge. Professional efficiency is not to be attained by spoon-feeding, but by chewing your own meat, so to speak, by hard work, and by the constant exercise of the powers of reasoning and judgment, and instruction is the more valuable the more it calls for the exercise of those powers. In the lecture, accompanied by no questions, and followed by no practical application, the brains of the audience are afforded the minimum of exercise. Often, it is to be feared, they are never exercised at all, but are merely roused to a temporary interest, which produces no permanent impression or practical results.

It must not be understood that I decry the lecture altogether. It may prove a means of arousing genuine interest, of stimulating thought, and of presenting a subject in such a manner that those who either cannot or will not think it out for themselves are able to assimilate it to some degree. All I urge is that the lecture, pure and simple, is not a prime factor in education, and too much must not be expected from it.

* Circular No. 881-D. M. E., dated 6th November 1900.

Let us consider now how far the orders referred to are calculated to attain even the modified success which the lecture, at its best, is capable of. The usual procedure in arranging for these lectures seems to be that the general officer commanding arranges for the number of lectures required by getting volunteers to come forward, and if these are insufficient, officers are detailed to lecture. Far be it from me to disparage the labours of these officers; the task of lecturing is difficult, and often thankless, but with a certain number of admirable exceptions, the results too often fall short of the ideal. The few really illuminating lectures are delivered, as a rule, by officers whose personal and special knowledge of their subject commands of itself attention and interest. The mere reading of somebody else's views out of a book, or published paper, seems to me to have a very low instructional value, assuming the audience are literate, and fairly well educated in their profession. This value is hardly affected by the reader being a specially selected officer, or otherwise. The school board has killed the "penny-reading," which played a good part in more illiterate days, and the military penny-reading might, I think, equally disappear from the programme of public instruction presented to officers of all ranks. Any recent papers of value, or published instructional literature of the type of the Bangalore lectures, must or should be known to a large proportion of the officers of any garrison. There is the less excuse for ignorance since military periodicals are found in most clubs or messes in India, and many articles of military value appearing in any periodicals are reproduced *in extenso* or largely quoted in the daily press. If it is considered that any valuable papers are likely to be overlooked, it should, I suggest, be sufficient to draw official attention to them, with a view to commanding officers reading them to their officers. This procedure would have the added advantage that the commanding officer could then discuss the question thoroughly with all officers of the corps at a meeting where ideas could be freely and informally exchanged, in a manner impossible at a formal assemblage of officers of all ranks and of various corps.

Present orders direct, it is true, that "a discussion should invariably take place," but the old adage about taking the horse to the water has to be reckoned with. Even at the lectures of the United Service Institutions in England and in India, of the Aldershot Military Society and elsewhere, it is the exception and not the rule for an adequate discussion to ensue. One or two people add a few remarks, more or less to the point or ask for further information, but of argument or discussion in the proper sense of the word there is seldom any, unless trained debaters accustomed to public speaking are in the field. A reason may be found in the fact that English officers are neither by race nor by training orators and debaters, and, moreover, if they disagree with a man, they have too much gentlemanly feeling to hurt his feelings by public opposition. For which mercies let us ever be thankful. The typical Englishman reasons silently and often slowly, but is capable after all of the soundest and most practical judgment. He seldom possesses that

nimbleness of wit and flow of language which are essential to public debate. In the same way, British officers, even those of the highest abilities, can seldom speak in public without careful preparation, and are usually incapable of extempore argument. On paper, and in private, they will argue with the best.

For these reasons it is, I fear, hopeless to expect adequate discussion to follow a military lecture, until the present characteristics of Englishmen and of officers are modified by early training. If the art of public debate is considered essential, let it be taught at Woolwich and at Sandhurst; nevertheless, it is better for the British officer to err with his forefathers on the side of taciturnity rather than of loquacity.

One more point deserves consideration. The lectures at Aldershot, to which reference is made, are delivered by officers or others, not necessarily belonging to the garrison, whose standing and reputation as experts causes their utterances to command an attention and interest which those of less senior officers can hardly ever expect to receive. Lieutenant-Colonel Sir George Clarke, R.E., on field fortification, Lieutenant-General Sir William Butler on the Nile Expedition, Colonel Hutton on mounted infantry, are a few of the many celebrities who have lectured at Aldershot in past years. There is no officer who does not appreciate the benefit of sitting at the feet of such as these, and there are many in high places in India whose words would carry equal weight.

It is to their seniors in the service that junior officers are entitled to look for instruction and guidance, and since, also, example is better than precept, it may not be out of place to suggest that when a general officer commanding arranges a course of lectures he should himself give one, and preferably the first, to open the series, followed in turn by the senior officers of the several arms of the service. Occasional lectures might also be expected from officers of the head-quarter and command staffs, and from the several specialist inspecting officers who pass through the station on tour. It would constitute no great tax on those officers, as the nature of their appointments is a guarantee that they have their special subjects at their fingers' ends, and one lecture repeated would suffice for a season.

The arrangements thus suggested are occasionally carried out even now, but the custom might well be universal. Not only might real benefit be expected to accrue from a course of lectures on these lines, but any junior officer in the station, who was specially included in such a galaxy, would feel it an honour as well as a duty, and not, as is too often the case at present, a somewhat unpleasant fatigue.

War games.—War games are by the King's Regulations (paragraph 1059) included in the theoretical instruction of regimental officers for which commanding officers are responsible, though this is somewhat modified by the orders (paragraph 1170) directing general officers

commanding to arrange for carrying out war games where means are available. Indeed, as far as India is concerned, the want of means practically nullifies the former order referred to, and renders it impossible to include war games in a system of regimental instruction.

If the responsibility of the commanding officer in this respect is to be real, it is necessary to provide the paraphernalia of the war game at every station—an expensive matter. The essentials are large scale contoured maps, preferably in triplicate, one for each player and one for the umpire, large tables to lay them on, adequate accommodation, and such minor articles as scales, pieces representing troops, etc. Many years ago some large tactical models of ground were set up at a few large stations in India, but such models, though the difficulties of map-reading are thereby eliminated, are too cumbersome for convenience and are adapted rather for exercises in minor tactics than in the more extended movements in which the value of the war game principally lies, for when troops on a map or model come into contact, the instruction to be derived from the exercise is practically at an end. Moreover where real ground exists to afford practice in tactical exercises, the value of the tactical model is largely discounted.

The tactical models referred to hardly seem to have been taken seriously. In one case, within my knowledge, where the model was put to some use, no department would pass the necessary expenses for housing, repairs, or accessories, until eventually it fell into complete disrepair and consequent disuse. Whether it ever secured recognition and resuscitation, I know not, but its disuse was due to no want of energy or interest on the part of the general officer commanding or others in the station.

That the war game has its value is undeniable, provided it is recognized as being no game at all, but a very serious form of instruction. If treated in any other way it is useless. It practically amounts to the solution in detail of a series of tactical or strategical problems. Until an officer has mastered the solution of simpler problems on ordinary maps, including the issue of written orders, it is, I think, waste of time to attempt the more complex conditions of the war game. For this reason it seems advisable to limit compulsory playing of the war game to more senior officers, while it may suffice for the juniors to absorb instruction by assisting in minor parts, looking on, and benefiting by the interesting, not to say heated, discussions which the game usually evokes. Much valuable instruction is derived from a war game seriously played and soundly criticised by the umpire, who is preferably the general or most senior officer in the station, but whether the expense involved will not prevent such instruction being universal seems more than doubtful. The cold weather is short and generally fully employed in practical work, a hot weather war game is purgatory unless alleviated by favourable surroundings. If the war game is to be in practice, as it is in theory, an integral part of regimental instruc-

tion, Government must be prepared to face a considerable outlay which, after all, might perhaps be better utilised in aiding military education in other directions.

The educational value of sports and games.—The devotion of officers as a class to sports and games has been discussed of late almost *ad nauseam*. There are some who see in this characteristic the prime cause of inefficiency in officers, the source of every disaster to our arms. Others again claim hunting as the best school for war, and regard proficiency in games as a sure index of fighting value. Truth lies, as ever, in the mean. Provided that sports and games are relegated to their proper place, and are not allowed to encroach upon the time, or dissipate the energy, required for getting and imparting military knowledge, devotion to these forms of amusement is an unmixed blessing to the army. As regards the past, and even under present conditions, I go even further than this. Our military education is still singularly wanting in many of those ingredients necessary for the formation of individuality, character, and judgment. Improvement may be hoped for, but meanwhile, active participation in sport in its various forms has done much to make good these shortcomings in military education, and to turn out those active and self-reliant officers in whom the strength of our army lies. Long therefore may our officers devote their leisure to manly and dangerous sports, to games played with their men, and thereby help on in their hours of recreation, as well as in their hours of work, the great cause of military education.

Recapitulation.—In the foregoing I have endeavoured to show how the present system of educating the regimental officer, though sound in theory, too often fails in practice. I have endeavoured to indicate how shortcomings may be rectified, how character and judgment may be developed and strengthened by systematic regimental education, linking always the theoretical with the practical.

I have recommended that higher technical instruction should be imparted at garrison classes, and that officers of the rank of captain should be capable of handling the three arms under all conditions. My view is that the education of regimental officers should be steady and continuous for, say, the first ten years of service, and may well then be closed, except in so far as that a zealous officer will continue to educate himself so long as life is in him. If an officer of 30 or even 25 years of age has not yet developed character, judgment, and power of command, and has not yet acquired a good working knowledge of his profession generally, it is hopeless to expect that mere lapse of years will bring improvement. Age brings experience and ripens judgment, but the man of thirty is the man for life. Then, if not earlier, must be eliminated the idle and the incompetent; they can do no good, and as senior officers may do incalculable harm. The remainder may be depended on to complete their own education, needing only guidance in their studies, and ample opportunities for practice in the profession which they are then calculated to adorn.

PART II.

STAFF OFFICERS.

The inestimable value of an efficient staff* and the universal discomfort—nay more, the danger—arising from an ignorant or feeble one have been too often made manifest in war, and even in peace, to make elaboration of this point necessary.

It follows therefore that the instruction and training, in other words the education, of staff officers to the highest attainable efficiency, is a subject of most vital importance, not only to the nation but to every man in the army. What qualifications then must an officer of the general staff possess before he can be considered efficient? If we follow the dicta of the most eminent commanders of the day, he must possess practically every quality, physical, intellectual and social, which go to make the perfect officer and the perfect man, such qualities indeed as can perhaps never be contained in one mortal body. But while setting our eyes on the highest ideal, we must perforce content ourselves with securing something more within the bounds of practical achievement. The following qualifications may without doubt be looked upon as essentials,—mental and bodily activity, sound common sense, capacity for hard work, physical and mental, a good general professional knowledge, and an accurate knowledge of his special duties in war and peace. As a staff officer has to deal with men of all classes and temperaments, a good manner and "tact"—that indefinable quality which may perhaps be approximately expressed by the phrase "The art of being a gentleman"—are, if not essential, at any rate supremely valuable.

It will be apparent that some of these qualities are inherent, while others can only be acquired. As Selection and training. it is manifestly useless to try and evolve a staff officer from a man inherently unfitted, it follows that selection of likely material is the first step, and the systematic training of the selected officers the next.

The army of India is affected by two different systems of selection and education. The first system English system. is that applicable to staff officers of the British army universally, except, in India. The second is the system peculiar to India alone. Let us consider the first case. It is unnecessary to quote in detail the provisions of the King's Regulations† as to the selection and training of staff officers, but they may be summarized thus :—A staff college certificate being an essential qualification, except in a few rare instances, preliminary selection of likely material is provided for by demanding of candidates the

* I refer of course to staff officers in the proper sense of the word. The term is often vaguely (and inaccurately) applied to all officers not doing duty with their regiments. In India Army Regulations even the ephemeral commands of Hill Depôts and Forts figure as "appointments on the staff of the army" (Army Regulations, India, Volume II, Part A, paragraphs 234 and 241).

† King's Regulations, paragraphs 215-217-1143 *et seq.*

following qualifications:—five years' service before examination, a thoroughly good regimental officer, passed for promotion to captain, able to ride, physically fit in every respect, steady, temperate, active and energetic, zealous, tactful. A further sifting follows. Only those candidates who can pass a fairly stiff examination in general and professional knowledge—an examination in most cases competitive—are admitted to the Staff College. In the opinion of some of course a competitive examination, or even any examination at all is "*anathema maranatha*"; but besides being the only practicable method of selecting out of a large number of presumably equally good candidates the number required for the purpose, it at least secures that such officers are reasonably intelligent, well educated, do not fear hard work, and have the power of steady application. The principle of selection by competitive examination is not unduly pressed, since one quarter of the officers admitted are required to pass a qualifying examination only. No system of selection can be perfect, and it must be admitted that in a few cases the raw material admitted to the Staff College is of poor quality. The danger arising therefrom is, however, largely discounted by the fact that, irrespective of mere book-learning, an officer's real abilities for staff work are pretty well gauged during the two years' course, and the number who pass out is sufficiently in excess of requirements to enable selection for staff appointments to have free scope. Whether the Staff College course affords the best possible training for the staff is too large a question to be dealt with here; among other points the instructional staff would I think be greatly strengthened by the addition of one or more officers of the Indian army to deal adequately with questions of organization, tactics, military history and geography with special regard to the conditions of the army in India. It must, however, always be borne in mind that the course has become much more practical than it was some years ago and is steadily improving. The book-worm has never been encouraged. A visit to the Staff College will make it abundantly clear that a high standard of physical as well as intellectual attainment exists among the officers under training, while a considerable proportion will be found to have attained some distinction in the service before passing the entrance examination. There is no denying that the mere fact of residence at the Staff College, mixing on terms of intimacy with officers of all branches of the service, many of whom are men of knowledge and of experience, having access to an admirable library, and being in daily contact as it were with the latest phases of English military thought, constitutes in itself a valuable education. The least that the course secures is that candidates for the staff have a good military education, and are fairly well grounded in the duties of a staff officer in the field.

Let us turn now to the system for selection and training of staff officers for the army in India.*

The Indian system. Candidates must have passed for their majority, or the equivalent examination, in the case of officers of

* Army Regulations, India, Volume II, Part A, paragraphs 234, 239.

the Indian army, and the general officer commanding must satisfy himself that the officer is a desirable candidate. To enable the general officer commanding to form an opinion, the candidate is attached to his staff for one month, but this attachment is dispensed with in the case of regimental adjutants and of officers who have previously officiated in staff employ. A native language qualification is essential, higher standard; in most cases, though lower standard suffices for First Class Station Staff Officers. The minor unseconded appointments on the station staff need not be considered, as the qualifications required are practically "nil." Now it will, I think, be agreed that the standard fixed by the above qualifications is extraordinarily and undesirably low. It secures only that candidates for staff employ shall not be below the average of their rank, while the fictitious value attached to the language qualification is, I think, actually detrimental. As the qualification is one required of all officers in the Indian army, it has no value in their case, while in the case of officers in the British service it merely narrows the field of selection by insisting on a qualification, which, though desirable in some circumstances, is a poor test of an officer's fitness for staff duties, and does not even necessarily imply a good colloquial knowledge of the vernacular. Except for the purpose of obtaining a staff appointment, there is little or no inducement to an officer of the British service to qualify in a language which after all is not the spoken language of the people over the greater portion of India, while the duration of service in India is, except in the case of the Royal Artillery and Royal Engineer, often too problematical to make it worth an officer's while to pass the higher standard merely as a qualification for the staff. If his regiment leaves the command, his chances of selection are greatly minimised, while, if he leaves the country, they disappear altogether. For this reason many a good officer is lost to the Indian staff.

I should very much like to see more reciprocity between England and India in the selection of staff officers. I suggest that it would be greatly to the advantage of the service if officers for the Indian staff were selected from all qualified officers in whatever part of the globe they were serving. In one or two cases recently officers of the British service in India have been selected by the Horse Guards for appointments at home and in the colonies, and the converse would, by widening the field of selection, greatly strengthen the Indian staff. In the same way is it not feasible as well as desirable that officers of the Indian army should be eligible for appointments under the War Office, certainly in those stations where Indian troops are serving ?*

Now the general qualifications demanded of candidates for the staff in India might I think be very
 Improvements suggested. reasonably increased, without in any way diminishing the supply of competent men. Let officers first of all receive a higher military education at garrison classes, on the lines I have previously suggested, or if my views on this point are not accepted, let them show proficiency in higher practical knowledge,

* The Indian army is an integral part of the land forces of the empire. The principle of liability to general service has been greatly extended in late years; let it carry with it corresponding advantages.

and especially in the military history and military geography of typical Western and Eastern campaigns, both within Indian limits, and beyond the border. A good working knowledge of either French or German might also be demanded. I do not regard this however as essential. A knowledge of modern languages opens up a vast field of military literature, and may be invaluable in an extra-Indian campaign, but it is quite possible to be an admirable staff officer and yet have no language but the mother-tongue. Other qualifications to remain as at present, while physical and mental requirements demanded of candidates for the Staff College should be rigidly adhered to. For the reasons given above, the native language qualification might I think well be reduced to the lower standard or better still a really good colloquial knowledge of one or more vernaculars substituted for the present literary standards. In requiring such qualifications we should not be fixing a standard one whit higher than that fixed for candidates for staff employ as far back as 1859.* The standard is far from high, but it will suffice, if it is regarded merely as a preliminary selection qualifying for staff training and not in itself qualifying an officer to join the staff at once.

What previous training in staff duties in peace or war is given to officers selected for the Indian staff? practically none. They are left to pick up experience as best they can from the performance of their duties after appointment, and this too when the work of an Indian staff officer in time of peace is almost entirely clerical, and only too rarely has any connection with the duties of a staff officer in the field.

It may seem superfluous to argue that a special training is as necessary for a staff officer as for any other specialist, but there are some who still consider that personal aptitude is everything—that the staff officer is born, not made. The half truth of this assumption makes it the more dangerous. Natural aptitude is a very great deal; indeed, without it training is in some respects worse than useless, but it is not everything. Some countenance is given to the fallacious argument that previous careful training is superfluous, by the fact that officers without a pretence of training, theoretical or practical, have occasionally been pitchforked into staff appointments in the field and picked up their experience as best they could. That some have profited by such experience is greatly to their credit, but the feelings of the "corpus vile" who have furnished material for the experiment are but seldom considered, while the number of partial or total failures in this category is usually forgotten. I am not unmindful of the fact that some of the most eminent and most brilliant staff officers whom the British army has produced have never undergone any special academical training. The names of the present and past Commanders-in-Chief of the British army will, among others, occur to everyone. But regard for a moment the patient, never-ending self-instruction in every branch of their profession these distinguished officers have undergone from their earliest youth, consider the solid foundation of an exceptional natural ability far beyond what we can hope to find in the

* *Vide* H. G. G. O. No. 725 of 5th March 1859.

majority of candidates for the staff. If every candidate was an embryo Wolseley or an infant Roberts, or even possessed a moiety of their brilliant characteristics, we might perhaps dispense with preliminary training, but since we must usually deal with far inferior clay, special training is an absolute necessity. It is dangerous to delay the training of the staff till war is on us. The earliest days may strain every bolt in the military machine and we require to enter upon a campaign with a staff as well trained and tested beforehand in their special duties as we rightly expect all other components of the army to be, be they generals, regimental officers, or private soldiers.

What form then should this special training take? Perhaps I am unduly prejudiced, but I would that

Staff training.

it were possible to give all staff officers a course of training at the Staff College. Let the course be shortened if need be, and I think that it might, without detriment, be reduced to one year of practical work pure and simple; but, as I have already said, I consider that the general widening of one's mental horizon, which is one of its greatest advantages, constitutes in itself, apart even from the valuable instruction, a real education. The expense involved was at one time a real difficulty in the path of officers of the Indian army, but this has been greatly minimised, if not entirely removed, by the special allowances now granted. The vacancies offered for competition and selection are, however, quite insufficient, while one reason why more candidates for the Indian staff do not avail themselves of the Staff College course may probably lie in the fact that it is sufficiently easy to get on the staff without undergoing the hard work and loss of time which the Staff College involves. One officer enters the Staff College for two years, while another remaining in India may secure a staff appointment in less than half the time, and before his more studious brother is back in India, is as likely as not well up the ladder, and secure in the enjoyment of honours gained in peace or war. When the easiest road leads to equal or even more rapid advancement, small wonder that it is the one most generally followed. The real difficulty in the way of a universal staff college training is that the present accommodation is insufficient. From a recent Army List I find that out of 69 officers who obtained seconded appointments on the staff of commands and districts, alone (excluding instructional, musketry, and similar special appointments) in the last three years, 14 only had passed the Staff College, and these, with one exception, belonged to the British service. There remained a balance of 26 officers of the British service, and 29 of the Staff Corps, or a total yearly average of over 18 representing the absolute minimum to be provided for. This calculation agrees very approximately with one based on facts of 4 years ago. After making allowance for the fact that if a staff college training had been for some time compulsory, some of these officers, not appointed for the first time, would have been fully qualified already, regard must be had to the appointments at head-quarters and elsewhere which have not been included, while a considerable margin of qualified candidates is essential to ensure adequate final selection.

Taking one thing with another, the annual output of the Staff College would under present conditions have to be increased apparently by 20 at least to provide for Indian requirements.

The adoption of a one-year course would halve the numbers, while the selection of officers of the British service from the many fully qualified, even in the language test, serving outside the Indian empire, should largely confine the additional students to officers of the Indian army. Using the rough estimate I have already given, the numbers of additional Staff Corps students might, under such conditions, be stated at 10 as an absolute minimum, while 15 would be the more desirable. The accommodation and instructional staff would have to be proportionately increased, but the proposal is well within the bounds of feasibility. Even if the course cannot be reduced, and 30 or more additional officers should be accommodated, I am strongly of opinion that the advantages accruing warrant the expense involved, and I urge the adoption of some such scheme modified if necessary by wiser heads than mine. The number required from the Indian army should be obtained by competition, or by selection, or by both. Preferably perhaps, unless candidates become unduly numerous, by selection tempered by the necessity of passing a qualifying examination.

The only alternative to the staff college course is a somewhat similar course, theoretical and practical, to be held in India, at one or more centres; but this solution of the difficulty, though better than no training at all, could never command the prestige nor the practical advantages of the older institution.* One thing, however, is essential: whatever form of preliminary training is considered desirable, this training must be thorough and systematic, and it must be rigidly demanded from all candidates for the staff. There must be no back doors. As long as it remains possible to get on the staff without the trouble of preliminary training so long will a large proportion of officers select the easier course to their ultimate disadvantage and to the great detriment of the service.

Assuming then that a staff college training is not only desirable, but practicable, let us now consider what further training is necessary to fit an officer for the Indian staff. In the first place, as regards peace training. A knowledge of routine duties and procedure is necessary, if only for the peace of mind of one's general, while the voluminous and complex nature of Indian Regulations, overlaid as they are with a mass of corrections, circulars, and local orders, requires not months but years of experience to tackle with any measure of success. Perhaps an early abatement of this evil, for evil it is, may be hoped for; but, under

* An article, "A Staff College for India," published in the "Pioneer" of the 23rd January 1903, ably states the case for such an institution and suggests a suitable organization. While admitting that there is much to be said for this view, I still hold that anything which tends to foster parochialism, or to encourage the isolation of the Indian army from the other forces of the empire, is of itself disadvantageous to the individual and to the state.

any circumstances, the conditions of Indian staff work require special study. The Indian staff is specialized into two main branches,—that of the Adjutant General and Quarter Master General Departments. This division, after exhaustive trial, has been found suitable to Indian conditions, but before a staff officer is specialized in the line best suited to his abilities, a general staff education is desirable, whether my views as to the desirability of staff college training are accepted or not.

It would be very advantageous for every candidate to be attached for a month or two to army head-quarters, to command head-quarters, to a selected district staff office, and to supply and transport, successively so as to acquire a knowledge of office organisation and procedure, to learn how cases requiring reference should be presented to higher authority, and what should be disposed of locally. Fully one quarter of the correspondence in district and command offices is caused by the staff of inferior offices being untrained in their duties; and as under present conditions they get no training except by bitter experience, the fault can hardly be laid to their charge. Such attachment would have the added advantage that the officers in whose hands lies the selection of the staff would be able to form some idea of the capabilities of candidates and their fitness or otherwise for the several departments of the staff. An officer so trained would then be eligible to take up an officiating vacancy, or junior staff appointment, whereby his fitness for a permanent appointment would be further tested. The system whereby an officer not infrequently declines an officiating or junior appointment and nevertheless is eventually appointed to a permanent or higher one should not be admitted under any circumstances. At present the difficulty is that officers of the Indian army of any standing cannot as a rule accept temporary or minor staff appointments without pecuniary loss, and few can afford to risk present bread for future cake. This cause should not exist. Since it is clearly to the advantage of the service that a future staff officer should gain experience and be tested to some degree before final selection, the benefit to the state should not be attained at the expense of the officer. Let it be established that an officer so tentatively appointed shall not lose pay thereby, and all grounds for dissatisfaction are removed. Nevertheless, let not the officiating or non-seconded periods be too long: commanding officers cannot be expected to view with favour a system which deprives them of experienced officers for an indefinite period, and so good officers are often lost to the staff.

If an officer cannot be seconded after officiating for a year at the most, let him then return to regimental duty without prejudice to his selection for a seconded appointment when opportunity offers.

And now to consider the training of staff officers for their duties in war, a subject of the very gravest importance and which at present receives but inadequate treatment. Preliminary training in war duties can, I think, it will be agreed, be imparted in a very minor degree by the performance of the routine peace duties of the Indian staff under

normal conditions. While regimental officers are engaged in duties which form an essential part of war training, the Indian staff officer, for nine months or more in the year, sits in an office for six or eight hours a day, dealing largely with administrative questions of peace routine, which happily pass away like an evil dream when the frontier is crossed with a 40-lb. kit and one office box. Not from pleasure does he spend weary days in clerical labour, but from the stern necessity of meeting the demands of a system hide-bound with code and precept. I doubt whether anyone who has not been through the mill as sole staff officer to an Indian district can form an idea of the extent to which the evil of office work monopolises time and energies which might be so much better expended. A staff officer is indeed fortunate if he can spend part of his cold weather in organizing or being present at camps of manœuvre, or even take part in a fair number of brigade field days without falling into hopeless arrears in his routine correspondence.

There are two principal methods whereby training and practice in war duties can be adequately imparted—

How attained, by camps of instruction, and by staff rides. Both methods are useful, but in neither case does the instruction attain its full value unless supervised by officers who know exactly how staff duties should be performed. It is regrettable, but not uncommon, to find officers appointed to manœuvre staffs solely for the purposes of gaining experience carrying out their duties in a slipshod and inadequate manner, without correction or improvement, solely from the want of some one possessing both authority and adequate knowledge to check their daily work, and to guide and instruct where necessary. This might be obviated by recognizing that manœuvre staff officers are under instruction and providing accordingly. Even if they have previous experience there is much to learn from one with greater knowledge, and we must never be satisfied with any staff work which does not follow the best models in accuracy and efficiency.

Staff rides, conducted and supervised by a skilled officer, afford most valuable training, but the submission of the results to higher authority

Staff rides. has little practical value, and it is pure waste of time and money to print and circulate the lucubrations of officers under instruction, though this course may have had some value when many were not quite clear what a "staff ride" meant. The object of the staff ride ceases with the criticisms and instructions of the director at the close of each day's operations. If the director is competent, the officers will greatly benefit. If he is not, no amount of revision or remarks by superior authority will avail much.

The value of a good staff ride is so great that I should like to see all staff officers in active employment given frequent opportunities of taking part therein, not as a perfunctory exercise to be jammed in somehow at the end of the drill season, but as a carefully conceived and deliberately executed course of instruction which it is advisable to undergo to keep up to the mark. Such staff rides

should preferably take place in the hills, and *not* at the officers' expense.

To conclude. I have set forth the principles which must underlie all education, whether of regimental or staff officers, and have considered in more or less detail some of the methods by which in either case true education may be attained. To deal adequately with or even to touch upon all is beyond the scope of this short essay. This, however, is the less regrettable because once this principle is grasped that the object of education is the development of character and of judgment, we have an infallible touch-stone by which to test the value of all methods and details of military education. Knowledge is good, instruction is necessary, but the mere acquisition of knowledge is of itself useless. The education which achieves also the right application of that knowledge is the pearl without price.

II.

BY CAPTAIN R. F. G. BOND, R.E.

Motto:—"Labor omnia vincit."

I.—Introduction.

The subject of education, both in its general aspect, and with special reference to our officers, is one of importance and difficulty of the subject. which is attracting an unusual amount of the public attention; and it is a problem upon the satisfactory solution of which depends, in no small degree, the future welfare of the empire. It is a subject which presents great difficulties, inasmuch as its consideration involves at the outset a psychological problem which is as yet very imperfectly understood: namely—How do we learn? with its corollary—How to teach.

All learning, indeed all reason, is a matter of memory, and it is of the action of the memory that we know so little. Phenomena connected with the memory and its action have been observed and recorded since the earliest times, and these observations have been investigated by recent writers, but our knowledge at the present time of the actual working of the mind is imperfect, and it is probable that the science of the training of the faculties, both mental and physical, is but in its infancy. In our present state of knowledge—or ignorance, it is difficult to say, even, what can be taught; to what extent we can develop the faculties by training, and how far moral attributes may be acquired. Moreover, it is a subject of such vital importance to the nation and to mankind in general that it is doubtful whether it has received from our educationalists that attention which is its due. Of recent years the question of the methods of higher education has received a great impetus from the growth of that class of teachers—the crammers. Whether or no the methods of the crammers are good, or whether their system is entirely meretricious, as

some would have us believe, is a matter about which there is a considerable divergence of opinion; but there can be no question that their methods, such as they are, have achieved a far greater measure of success than more old-fashioned ones, in attaining that end which, under our present system, must necessarily be to a large extent the goal of education—the passing of examinations. And it cannot be denied that the advent of the crammer has acted as a most beneficial stimulus upon those in whose hands the training of youth lies.

It is not the purpose of the present essay to investigate the theory of education. The subject is far too wide to be even glanced at within the limits of the space available. But it will be as well at the outset to lay down some postulates with regard at least to the possibilities of education and training, as a foundation upon which to base those principles which must act as guides in devising a practical system.

Let it be granted, then, that what may be called the moral qualities may be developed to an almost unlimited extent. That of the class of intellect dealt with, all are susceptible of development to a point which is not attained by our present methods; by means, and within the time at our disposal for the education and training of our officers while in the junior ranks. This development takes place most rapidly in youth. It is quickest in childhood, but for several years after the age at which our officers enter the service their natures are plastic and trainable, and, provided the training of childhood has been sound and systematic, it is during these years, the first few years of their service, that those moral attributes which we shall see presently are so essential to the military officer, are most readily acquired. Further at the age of, say, 25 the character becomes set. It is not by this intended to imply that the power of acquiring knowledge ceases. This power is never lost while reason remains, and indeed our faculty for acquiring knowledge may increase for some years beyond that age; but when a youth has arrived at about the age of 25 his character will be formed, and the result will be in accordance with the education that he has received. At this point systematic education may cease and the subject may fairly be left to work out his own salvation; but the acquirement of knowledge, experience, and training continues through life.

Now, this question of what have been called the moral attributes is a very vital one in the education of the officer. It is a far more important one than the acquirement of mere knowledge. The technical knowledge required by the ordinary officer; and by ordinary officer is meant the one who is not a specialist; is small as compared with that required in some other professions. But the atmosphere in which he performs his most important duties, those on the battle field, is of such a kind as to require in him an abnormal development of certain moral attributes in order that his mind may work with regularity and precision.

In dealing with this subject, it is proposed to consider, firstly, what it is necessary that our officers should know; secondly, to review briefly the system at present in operation; thirdly, to consider this system in detail, seeking out its weak points and deficiencies, and suggesting improvements; and lastly, to deal with the question of the special training of staff officers.

The system of education at our military colleges for cadets will be included in the review, as, although students at these colleges are not officers, yet the course of education forms a vital part of their training as such; and it is at the time of passing the entrance examination to the army that education for the army must begin.

I.—What it is necessary that our officers should know.

First, then, to consider what it is necessary that our officers should know; and in order to determine this we must enquire somewhat closely what duties they have to perform.

"War is an act of violence to compel our opponent to fulfil our will.—To attain this end there is only one single means; it is the Fight."*

From this it appears that the whole aim and object of military education is to teach our officers to defeat the enemy on the field of battle. But the fight, though the ultimate goal, is one which few officers ever see. A large proportion of them never reach the theatre of war, yet they have many duties to perform, all working to the common end. We may therefore divide their duties under two branches of military activity; those belonging to the preparation for war, and those belonging to war itself.

It would be unnecessary to draw attention to this division of the duties of an officer, were it not that the one class, those performed on the field of battle, are of a kind requiring a special form of training. It will be necessary to recur to this point, because it is of great importance and must ever be borne in mind.

The knowledge required for the execution of war itself is a knowledge of what is called the art of war, combined with such physical and moral qualifications as are required to enable the means available to be applied to the best advantage to accomplish the end in view. The physical qualifications are a sound body, well trained to withstand the exertions and privations of war. The possession of a sound body is ensured by a searching medical examination, and there is little fault to be found with the physical qualifications of our officers. But what are those moral qualifications which are requisite to enable an officer to apply any knowledge of the art of war he may possess to the best advantage on the field of battle.

Chanzewitz said, "Every thing is very simple in war, but the simplest thing is difficult." †

* Chanzewitz on War, Book I, pages 1 and 18.

† Chanzewitz on War, Book I, page 40.

This difficulty is not inherent in the actions of war themselves: it exists by reason of the conditions under which those actions are performed. They are, principally, two—danger and “fog.” The word “danger” is used in a wide sense, implying not merely personal peril, but the paralyzing weight caused by the magnitude of the issues at stake, and the realization that penalties for mistakes are measured in men’s lives. By “fog” is meant that atmosphere of ignorance and uncertainty surrounding all operations of war. And these two produce between them such a condition of nervous tension that special training is required to enable the soldier to resist them.

To enable a man’s mind to work freely under the conditions of war, he must possess in a very high degree certain moral qualifications—a well-balanced mind, level judgment, great resource, energy, self-confidence; in short, common sense and courage.

And here the word “courage” is used in that wider sense which implies not merely personal valour, but that combination of qualities which enables a man to make the most momentous decisions, and act with coolness and precision, amidst the stress and turmoil of the field of battle.

It may be said these attributes are inborn and not acquired. Whether this is so or not is a question which cannot be pursued here. The objection has been met by laying down a postulate to the contrary at the outset. But if the statement be true the value of education to the officer is at once very largely discounted. It may further be said that they are such as mark the successful man in most ordinary pursuits. This is entirely true. A painter achieves fame by displaying an unusual knowledge of a technique, which is beyond the ken of the man in the street. A great pianist must possess such a manipulation as can only be attained by long practice, and an extraordinary development of the muscles and locomotor memory. A physician can only acquire pre-eminence by a wide and minute technical knowledge, perfected by long experience. The great general displays none of these special, highly trained knowledges. All that he does is severely commonplace, mere common sense, comprehensible by the most ordinary intellect, but performed under the most trying conditions. It is true that there is a technical knowledge required by the military officer, and this technical side of modern war is always assuming a greater importance with the increase in the use of scientific appliances. But even so it still holds, and must always hold, a secondary place, as long as war is waged by men and not by machines.

Would, then, any man possessing common sense and common courage make a successful general if placed in command of troops on the battle field? The answer to this question is not necessarily in the negative; and some instances might be quoted of men who had received little or no military training, yet who did well when placed in command of troops; but the probabilities would be against him, first, unless he possessed the higher moral qualities in an abnormal

degree, or unless he had specially schooled himself to be prepared to meet the conditions of the battle field, he would be overwhelmed by them; and, secondly, he would be impotent by reason of a want of that technique which is necessary, even in a soldier, to enable him to control an army under modern methods of warfare. Moreover, there can be no question that the capabilities of such a man, as a leader in war, would be immensely increased by systematic education and training.

Further, all military action is essentially co-ordinated, or disciplined, as apart from individual. There is a form of military discipline which was the discipline of the last century. It was the discipline which required the exact mechanical obedience of orders or words of command: and little more. It was the discipline of Frederick the Great, and it is as dead as his tactics. To enable an officer to perform his duties in accordance with this discipline, all that was necessary was a knowledge of how to carry out, with the utmost precision, a few simple manœuvres. He was not required to think, or to exercise his judgment. This form of discipline gave rise to a special form of education, the training which produced the narrow-minded martinet of bygone generations; a type of officer long since extinct; who served his country loyally and well, but for whom there is no longer a place, and who has ceased to exist even in the pages of fiction, or upon the stage.

It is as paramount to-day as it ever was, that every action of every unit in an army should be solely directed to carrying out the intention of the commander; but the difficulty has been immensely increased by the abolition from the field of battle of the word of command. Whereas in former days, not so very long past, the action of the soldier, including the junior ranks of officers, was a mechanical, a reflex action, stimulated by the word of command as a dead frog is stimulated to kick by the electric current; in modern war the officer must rely upon his own military knowledge and insight to show him when and how to act. This requires on his part a wide knowledge of the art of war, such as will enable him to grasp the meaning of the movements he is required to carry out, and the orders he receives; it requires a sound judgment, which will enable him to initiate such action as will best assist in attaining the desired object; it requires a familiar knowledge, a mechanical knowledge of the technique of his profession, which will enable him to set in motion, with promptness and precision, that portion of the fighting machine which is under his control; and it requires, above all, that courage both moral and physical which will prevent shrinking and hesitation to act, in the face of appalling responsibility.

It appears doubtful whether this immense change which has taken place in the methods of war, the calls which it has made upon the intelligence of all ranks, and the consequent increased necessity of education and training has been fully realized. The demand for increased education has been made in every walk of life, and this demand has to some extent been met: though it is doubtful whether

we, as a nation, are not behindhand in the matter, as compared with our continental neighbours. But in no profession has the call been so urgent, or so sudden, as in that of the military officer. This may be traced to two causes. In the first place, the military officers of a hundred, or even fifty years ago, were, as far as professional knowledge went, perhaps the most ignorant set of men to be found. Ignorance was a positive tradition in the service; and it is a tradition which has died hard. Secondly, the change in the methods of war which have been referred to has been sudden. The old discipline has been referred to as that of Frederick the Great, because he was one of its greatest exponents, but its traditions even still remain. The system itself was inflexible, and did not lend itself to modification. And when we realize what this discipline means to an army, how it is its very soul, the reluctance to modify a system which had produced such results can be understood.

But we, as a nation, have just passed through a bitter school of experience, and amidst the many lessons about which there is arising so much controversy, one stands out in prominent relief; and it is, that the mechanical barrack square discipline and its methods are defunct, and have given place to a discipline which must be based upon extended education and training. And upon no unit has the demand been greater than upon the officer, more especially in the junior ranks.

An officer's duties in peace time are of a twofold nature: he has to train all under his command in their duties, and he has to conduct the current business connected with the maintenance of order, and so forth. Before he can perform the first he must have a thorough knowledge himself of what he has to teach, and for the second he must have a precise acquaintance with the regulations governing the establishment, and the methods of carrying them out.

We have seen that the junior officer of the present day has far greater latitude and far greater responsibility upon the battle field than formerly, and that in order to make good use of this latitude he must have a more thorough education. The same applies to his duties connected with the maintenance of the establishment. The whole tendency of modern reform is in the direction of decentralization, the forcing of responsibility upon all ranks and the abolition of those innumerable cast-iron regulations which were intended to provide a direction for every possible contingency that might arise; and forbade the officer to use his own judgment and common sense. This delegation of responsibility to junior officers must be met by a corresponding movement on their part to fit themselves for their increased duties. The officer who is "run" by his color-sergeant will have to disappear and be replaced by one who is able, not only to see that the work of maintenance is being carried out properly, but to correct and instruct where necessary. The change is a parallel one to that which has taken place on the field of battle. The hide-bound system of minute and cast-iron regulations produced an officer who was at

a hopeless loss if he were unable to find a direction to tell him exactly what to do under given circumstances. The new *régime* will require an officer who will be educated and trained to act in accordance with the dictates of common sense and sound judgment; but also in accordance with the spirit of the general regulations laid down for his guidance.

Briefly, then, our system of education and training of officers must be so framed as to develop in them those moral qualities which are essentially necessary to enable them to act on the field of battle. It must enlarge their minds, and develop abnormally their judgment, common sense and courage; and, at the same time, it must ensure the possession of such a thorough knowledge of the methods of war, and of the preparation for war, as to enable them at all times to act with self-confidence and precision, and in accordance with discipline and with the sole object of carrying out the will of the commander, whether in peace or war.

II.—A brief review of the system at present in operation.

To review now, briefly, the system of education and training at present in force.

Before becoming a cadet, the lad passes a qualifying and competitive examination in subjects of general education, and a medical test. These to a certain extent ensure his possessing qualities of application and perseverance, and general intelligence, somewhat above the average; and a sound body. He then goes to a military college for a period of one, or two, years: cadets for the scientific branches generally two, for the infantry and cavalry generally one. During this period the cadet is practically at school, but with somewhat enhanced personal liberty. His education, however, undergoes a change. For, whereas while he was at school the subjects of study were chosen with the idea of training the mind, that is general education, whilst at the same time imparting knowledge which would be useful to him in after life, whatever his profession: from the time he joins the military college these subjects of general education, and the idea which underlies them, give place largely to special military subjects; military art, law, history and sketching; drill, shooting and riding. In order to ensure due application while at the college the cadet has to pass another examination before passing on to a commission: repeated failure at this examination being visited with dismissal. On joining his regiment the young officer is put into the hands of the adjutant for completing his knowledge of the minutiae of drill, &c.

He also receives at the hands of his company commander a thorough instruction in interior economy, and gets constant practice in the duties of a company commander by having to officiate in that position in the absence of officers on leave or duty.

Before promotion to the rank of captain, in order to ensure his possession of sufficient knowledge to qualify him for that rank, he is required to pass an examination in professional subjects. To assist

him in preparing himself for this examination, in addition to the instruction which he receives in his regiment, he is allowed to attend a course of instruction lasting a couple of months, being struck off all duties in order that during that time he may devote his whole attention to study. The course is conducted by a specially selected staff officer whose principal duty it is to instruct. The examination is both practical and theoretical. Both the course of instruction and the examination are repeated before promotion to the rank of major.

In addition to the instruction given by the adjutant and company commander, it is one of the duties of the officer second-in-command of the regiment to look after the education of the junior officers and to supervise and assist them in their studies.

To give the officer an opportunity of acquiring a knowledge of those more technical subjects which can only be efficiently taught by experts he is allowed to attend, periodically, specially formed classes, e.g., classes at the School of Military Engineering for military engineering and military sketching, classes in musketry, gymnastics, riding and signalling; also in the judging of provisions, veterinary work, &c.

Certain money prizes are given to encourage the officer to learn the more uncommon foreign languages, and those serving with other than British troops are generally required to pass an examination in the language of their men.

General officers are enjoined to encourage the use of the war game, where apparatus exists, and occasional lectures are delivered in garrison stations in the non-drill season on military subjects.

For the practical training of both officers and men there are field days, manœuvres, and camps of exercise.

Before the officer is allowed to attain the rank of lieutenant-colonel he is required to pass a further examination, both theoretical and practical, dealing with the command of bodies of troops of all arms.

This briefly reviewed, is the educational career of an ordinary British officer—as laid down in the regulations.

This educational system will now be reviewed more in detail, endeavouring to trace how it works in actual practice, seeking out its weak points and deficiencies, and suggesting remedies.

III.—Review of existing system in detail with suggestions for improvements.

It has been seen that when the cadet enters the military college his education undergoes a change. It may be said that education ceases and instruction begins. It has been a source of complaint against the Sandhurst course that the cadet, at the time of leaving the college, is more qualified to criticize the strategy of Napoleon than to command

a corporal's guard. This criticism, if true, is fallacious. It implies that the change in education should be still greater than it is. That the instruction during that year should be entirely devoted to imparting knowledge in the minutiae of drill and interior economy. In short, that the course of instruction should be based upon the standard of education of an intelligent non-commissioned officer, and that when the cadet has some knowledge of these details, the sooner he joins his regiment and is knocked into shape the better.

At the age of 18, when the youth leaves school, his mind is in a pliable condition, and the education which he receives for the next few years, and the atmosphere and environment in which he moves, will do more to mould his mind and temperament than anything afterwards. It is at this time, when the mind is pliable and receptive, that we must make our effort to specially develop those mental qualities which, as has been seen, are of the first importance to the officer. The mental qualities required are such as mark successful men in other walks of life. Let us consider the path pursued by a youth proposing to enter either of the professions, say, the bar, medicine or business. Does he relinquish on leaving school all systematic mental training and proceed at once to the exclusive study of the technical minutiae of his profession? It is generally considered that such a youth's education cannot be considered as satisfactorily completed until he has been through a term of university residence. Why is this? It is undoubtedly because the 'Varsity course is a systematic course of mental training, and it is its principal object to develop and train the moral qualities, to enlarge the mind, and strengthen the judgment. It is a course of mental discipline. It is, in fact, a course designed to develop in the youth many of those qualities which, as we have seen, are essentially necessary, and require abnormal development. Moreover, in almost every profession except the army, the youth on entering it has to go through a period of several years' hard drudgery before he is in a position to make a good start in life. This drudgery is not gone through by the young officer. It is true he has to perform a number of monotonous and irksome though necessary duties, but it cannot be maintained that in doing so he acquires any considerable military knowledge; though such duties, doubtless, have their value as a disciplinary training.

Let us now follow somewhat in detail the career of an average youth, under the existing system, for the first few years after entering the army. He first goes through the year's course at the military college. Is this course calculated to take that place in the education of the officer which is supplied by the course gone through by his brother in one of the professions referred to? The subjects there taught are taught necessarily in their simplest elements; and they are learnt with a view to passing a competitive examination upon the result of which may depend, to a large extent, the cadet's future career. Hence, the system must be largely one of cram. After this year at the college the youth joins his regiment, and here his systematic mental training practically ceases; and for the next few years, while his brother is going through a 'Varsity course, followed by a few years of

drudgery on entering his profession, he may, as far as systematic study is concerned, be practically idle; without in any way falling behind in the race with his brother officers, or jeopardising his future prospects. We have seen that, on joining his regiment, he is put into the hands of the adjutant for acquiring a knowledge of drill and routine. It is probable that he will attend drill with the recruits or his company daily. What has he to learn? He has to acquire a thorough working knowledge of the drill book, manœuvres, and musketry. At the same time he is picking up a knowledge of interior economy in his company office. Let us assume that the company commander takes his instruction systematically in hand and explains to him all the routine business which presents itself—the keeping of accounts, making out of returns, discharges, transfers, and so forth. At the end of the six months he will have satisfied the adjutant, and it is probable that his company commander will consider him in a position to be able to complete his education for himself. He will have a thorough knowledge of the drill book and musketry and a fair working knowledge of interior economy. He will be in a position to “run” a company creditably, and will be a useful unit in the regiment. So far so good. But now what of the next three years, or even the next six or seven? While the company has a commander he will be his assistant, and according to that officer’s habits and methods he will have to carry out more or less of the work of the company. Let us suppose that he is keen, and anxious to do something more. In his spare time, of which he will have a good deal, he would like to acquire a rather more extended knowledge than is contained in the drill book and the regulations. Where will he go for it? It is extremely improbable that he will find any books provided for him. Libraries of professional books are supposed to exist in large garrisons, but, as a matter of fact, they are exceedingly few and far between. There is no one whose actual business it is to help him, or encourage him, or set him in the right way; and unless he is an individual of most unusual pertinacity and perseverance, he will undoubtedly give up the attempt. It has been said that he will receive no encouragement. He will not even have any inducement, or reward held out to him, and there will be no compulsion, because he knows that with reasonable application during his garrison class he can make sure of “flooring” the promotion examination looming in the distance. He may gain for himself a reputation for keenness, and we may assume that this will enhance the opinion formed of him as a capable and promising officer by his seniors; and this may lead to some flattering remarks in his confidential report, a document which he will never see.

Under these circumstances, what will he do? What does the average young officer under the existing system do when he finds, after a very short time spent with his regiment, that there is no longer any necessity or inducement to do more than carry on the ordinary routine of his duties. He will find two principal paths open to him for the exercise of his energy and keenness, and as a

salvation from stagnation. He will find that there are a number of extra-regimental employments going which are filled by young regimental officers; and the most promising are those offering employment in out-of-the-way corners of the empire, generally in service with native levies. He will be personally acquainted with several of his contemporaries who have found their way into such billets, and who have been in consequence in a position to show their capabilities and have reaped rewards and honours. And he will do his best to follow a similar course. His great idea will be to leave the regiment and get a "job." The second opening he will find for acquiring distinction will be in the sports and games of the regiment and garrison.

As regards the first of these courses, if the young officer is so fortunate as to be able to adopt it, he will at once find himself in a position where his own advancement will depend entirely on his own exertions and capabilities. Moreover the reward will be certain and palpable. The interests and responsibilities involved will stimulate his keenness and ambition, and he will be passing through the best of all military schools, experience and action, most probably on the actual field of battle. It is this training ground which has produced some of our most able commanders and has produced them in considerable numbers, the failures being few. Fortunate indeed is the young officer who has the opportunity of pursuing this course, for he will be learning to soldier as he cannot otherwise be taught. But though this best of all schools exists, and it is to the credit of our officers that the competition to enter it is so keen, yet it must be for the few and something more is required.

As regards the second course, sports and games have a very real value as methods of training, and as outlets for energy they are, under the present system, the salvation of numbers of our young officers who would otherwise undoubtedly be led into courses less beneficial if not actively pernicious. But that our officers should be driven to give them a first place in their attention shows a defect in our system.

Surely, then, our system of education and training during the first few years after the lad leaves school is deficient. Instead of continuing systematically his mental development, we allow him to run loose; the only restraint being the conventions of regimental life to which he must conform. It is during these years that we must keep a hold upon him, and educate and train; and this can only be done in an establishment devoted to the purpose.

But, it may be said, if during these first few years of an officer's service, when habit and environment has admittedly a large influence, we keep our youths to a four-years' course of close study, instead of sending them out into the world to healthy out-door exercises, we shall turn them into bookworms and professors, and that is the very last result that is required. By sending a young man out into

the world at 19 or 20 he begins to gain experience young, he acquires a knowledge of men and of the world, and gets the corners knocked off. There is much in this. It is certainly of the utmost importance that our officers should not develop into mere bookworms, or acquire the idea that the arena for the acquirement of their higher education is the study ; or that they should lose any of the benefits which are undoubtedly derived from leading the active life that the average officer under the present system does lead on joining his regiment. We have referred to the 'Varsity course gone through by young men of the same class as our officers before entering other professions, but it is not intended that that is an ideal course for young officers. It is by no means proposed that during these three or four years they should be kept to a close study of booklore. A soldier's life and duties are essentially, and, above all, active. It is by action alone that his results are attained. But whereas in the old days an officer's actions were of a reflex nature, caused by the stimulus of the word of command, his actions in modern war are based on reason. It is in the study that he learns to reason ; it is in the field that he learns to act. And it is the reason and the knowledge acquired in the study which give the power and the courage to act in the field. The two must ever go hand in hand ; and every lesson in reason must be accompanied by the correlative lesson in action ; so that the officer may acquire the ability to act according to his reason, not only in the calm of peace, but also amidst the storm of war.

The establishment proposed would be essentially a military one. The cadets would, as at present, be formed into companies, and be under military discipline. They would start on the footing of private soldiers, and would, during their residence, pass through all grades up to that of company commander. They would in turn be instructed in, and assume the duties of each grade, and in so doing would acquire a practical working knowledge of the duties they have to perform on joining their regiments. But they would be throughout under the immediate supervision of military officers who would instruct them, and supervise their work. In laying down the details of the course of study at the establishment, the two objects must ever be kept in view, to teach the cadet to reason, and to act. There are two subjects which are under the present system very imperfectly taught to our officers. Military history is taught in its elements at the military college, but it is taught in such a meagre way as to entirely lose its great value as an educator ; and beyond this it is not systematically taught at all. The instruction is practically confined to the cramming of a few isolated "examples" which look well in an examination paper, but which have no solid foundation. Indeed, the time available for its study is entirely inadequate to do more.

But military history in its wider ranges is a subject having an educational value which it would be difficult to over-estimate. It deals with wide issues and with minute details. It deals with the rise and fall of nations and the causes. It treats of the action of men under the fierce nervous strain of battle. It shows how the smallest

event may have the most far-reaching consequences, and how great results are attained alone by great endeavours. Its study imparts to the student a proper idea of the proportion of things and teaches him to view events in their true perspective. It cannot but fail to instill into the mind of the young officer an appreciation of the nobility of his profession. Moreover, it is a subject of which a wide knowledge is essential, inasmuch as it is the basis of all military knowledge.

Natural science is a subject of which, in these days of scientific warfare, a sound knowledge is absolutely essential to the military officer. And surely the study of nature and her methods cannot fail to enlarge the mind.

A reference has been made to the increased knowledge required by the modern officer in keeping the army machine working in time of peace. At the establishment proposed he would be taught the principles on which the whole establishment is maintained, and the policy guiding those principles. He would be instructed in the theory of the accounts which he would be actually keeping in practice, and he would acquire a thorough knowledge of where to go to obtain information as regards details which cannot be carried in the head.

The course would include all these special subjects at present taught at the military college, but instead of, in a few months, obtaining a mere smattering of them, which he forgets in a yet shorter time, the cadet would acquire such a solid foundation as he would be able to build upon at any time and to any extent. During the summer months the instruction would be largely out of doors. The cadets would go into camp, attend manœuvres, and camps of exercise as a regiment, and being under the supervision of officers whose sole business it was to instruct them, they would at such manœuvres learn far more than they are able to do in a similar manner on joining their regiments. Riding and shooting would form important items of the course.

The course would last three or four years; those deserving it being pushed on by more rapid promotion through the various grades and gaining a commission sooner. The officer would then join his regiment, and after a month or two, at the age, say, of 23, we should have an officer who had had a thorough grounding in every branch of his profession, whose mind had been trained and disciplined, and, who had acquired such a habit and tendency for work as would influence his whole future career.

This, then, is the first great defect in our present system. The neglect of the young officer, and the lack of systematic education and training during the first few years after leaving school; and the proposal for its remedy.

But the defect so far dealt with is not the only weak point in the existing arrangements for the officers' education. Under the existing system he would, after going through the lengthened college course proposed, be cast adrift without compulsion, inducement

Provision of educational staff.

or the means of continuing his own education. All that would be required of him would be to pass a couple of the simplest examinations for promotion to the ranks of captain and major.

It is admitted that the officer cannot receive the necessary education on all points in the regiment itself. He requires external assistance to prepare him for passing the elementary tests at present in force. As we have seen, apart from courses in purely technical subjects such as signalling, &c., and not considering for a moment the ordinary company and regimental training, field days and manœuvres, the present system provides between the time of joining a regiment and promotion to field rank, two courses at a garrison class of a few weeks each. It provides the supervision of the second-in-command ; an officer who has no special qualifications for teaching—a source of education which may be neglected. It provides garrison lectures ; but it is probable that the average number of lectures attended by all the officers in the army in a year would amount to a small fraction. It provides one staff officer to supervise the instruction of the district, and his position is not an exalted one. There is, in fact, no sufficient instructional staff, and this is what is wanted.

Attached to the general staff of each district, there should be a senior officer to whom, with such assistance as might be necessary, should be entrusted the systematic instruction of all officers below the rank of major. His position should be one to be coveted and given only to distinguished officers. He would be entrusted with the preparation of officers for promotion examinations, and their examination (if under the system proposed such tests were still found necessary). But this preparation would not be spasmodic, and confined to two months' "cram" on the eve of the examination. It would be continuous in those subjects which cannot be efficiently taught by the ordinary regimental training and routine. He would be responsible that the education of every individual officer throughout the district was carried out systematically throughout the year. He would, in the non-drill season, hold classes and detail officers to attend them. During the drill season he would attend all manœuvres on the umpire staff, and draw up reports on them from an instructional point of view. One of the weak points of our manœuvres is that the lessons to be learnt from them are not sufficiently systematically brought to the notice of, and impressed upon the participants. This would be remedied. He would before the commencement and on the completion of all extended manœuvres, by lecture or otherwise, explain fully the idea, and the object of the movements, and the good and bad points in their execution. He would note, for the information of the commander, any individual display of skill or ignorance ; and upon his reports would depend in a large degree an officer's prospects. Such a system would emphasize the lessons to be learnt from manœuvres, would enormously increase the interest taken in them by all ranks, and would in every way increase their value for instructional purposes.

In the army corps or command would be a similar staff for directing the system carried out by the district staffs ; and at the head, a general staff directing the whole. By this means we should not only have an adequate and organized system of instruction throughout the army, but we should have an organization corresponding somewhat to the German head-quarter staff ; an organization of which our army stands in conspicuous need.

This is the second weak point in our existing system. The want of an organized educational staff—and the proposal for its formation.

It has been said in a previous paragraph that, under the existing system, an officer in the junior ranks has no inducement held out to him to make an effort to improve his professional qualifications, beyond the minimum required for examinations. There is no palpable reward facing him ; neither is there any palpable punishment to be feared as the inevitable result of neglect. Any well-devised system of education and training should include an efficient arrangement for sifting the products, and dividing the grain from the chaff : it should provide a system of compulsion for those requiring it, and of reward for those deserving it. In other professions this process is carried out automatically by the action of public opinion, and the reward, in the shape of augmented practice or business, is the direct result of the individual's exertions. This is perhaps not strictly true, because in all professions family and other influences have their weight ; but as far as human institutions can be, the system is perfect. Let us consider the position of an officer in this respect, and in doing so we shall see how our system of education has been, to a large extent, built up.

In the old days an officer acquired his commission and ensured his regular promotion by right of purchase. Many years ago purchase was abolished, but regular promotion was assured to the officer according to length of service. It soon appeared that an officer might attain to a position of great responsibility without having in any way fitted himself to hold it. A system of examinations was therefore introduced, by which the officer, at each step of promotion, was required to show a fixed minimum of professional knowledge. The system, though well-intentioned, was radically faulty and failed, and does now fail to ensure the possession of even that small minimum of knowledge demanded. In connection with the examinations, arose the garrison class. Thus it is seen that our present system of education is largely a system of examinations ; the examination being used as a means of testing the possession of a certain standard of knowledge. Where a few have to be selected from a large number, the examination, as a means of selection, is often the best that presents itself ; though it is doubtful whether the methods at present in use are not faulty ; but as a test to ensure the possession of a certain standard of knowledge, the examination must be pronounced a failure. This system of examination is in many ways peculiar to the army as a profession, and it has been developed to a point verging on absurdity. Moreover, it appears that the principle underlying it is unsound. That principle is—If you want to make sure that a man possesses a certain

standard of knowledge—examine him ; whereas it should be—If you want to make sure that a man possesses a certain standard of knowledge—teach him. The object of our education under the present system is to pass examinations ; but inasmuch as the examination fails as a test, even when conducted with the greatest care and system, and that cannot be said of the majority of ours, so our system of education fails to achieve even that which it undertakes to accomplish. The question of examination is a most difficult one, and it is impossible, within the limits of the present essay, to deal with it fully ; but it appears evident that the man who knows best the amount of knowledge possessed by his pupils is the teacher. Select your teachers with the utmost care ; do your best to ensure their possessing the qualifications necessary, and then place implicit trust in them ; and the more sparingly the examination, with its attendant evils, is resorted to the better.

But even with these restrictions it was found that officers rose to responsible positions without being qualified to hold them. To meet this state of affairs the system of selection was tentatively introduced in the highest ranks, and has, up to the present, very gradually spread as far as the rank of regimental commander, and, to some extent, to that of second-in-command ; although by the time it reaches this level, it has practically degenerated into a rejection of the obviously very “ bad hats ” and is not a process of selection of the best.

It will be seen that the system of selection has had to struggle against a very powerful opponent, the prescriptive right, founded upon long tradition, of promotion by seniority. But there has been another objection, and it is in connection with the very delicate subject of discipline. The discipline of a regiment very largely depends upon the mutual good feeling of the officers who spend their lives and careers within the regimental family. The introduction of a feeling of mutual jealousy into such a community would be a very real danger. A third objection may be noted, namely, that it would be harsh treatment, amounting almost to breach of faith, if an officer were allowed to enter a profession, the training in which in no way fitted him for earning his living in other walks of life, and after a few years' service, were to find himself hopelessly debarred from further advancement, or even cast adrift.

With regard to the first objection, the prescriptive right of promotion by seniority has been withdrawn from the higher ranks, and to extend the system lower is simply a question of publishing the fact with regard to future enlistments, after which no ground for complaint would exist ; though it is possible that the result as regards recruiting might be serious. With regard to the second objection, it must be remembered, as to the subversion of discipline, that the present system has a similar effect. There can be no possible doubt that the presence in a regiment of an obviously incompetent senior officer has a most deleterious effect upon its discipline. We have some experience to go on in this matter. It has been customary

for some years past, to promote freely very junior officers to field rank for distinguished conduct in the field. This promotion, it is true, has no effect in the regiment, but such as it is, it cannot be maintained that it has produced any feeling of indiscipline in the army generally. It has, indeed, had a most beneficial effect upon the class of officers superseded. It has given an immense stimulus to junior officers to place themselves in positions in which they will be available for similar advancement. Suppose this system were extended and promotion to field rank, having effect in the regiment, were given, not only for distinguished conduct in the field but to the most distinguished captain in the regiment. Would it not at once set every junior officer striving to attain that position? As regards the third objection, the system of promotion by selection implies the stagnation of a certain number of officers in the various ranks from captain to colonel, whose promotion would be hopelessly blocked. The numbers in each rank would be small. From the point of view of the service, the fact that they are unfitted for promotion does not imply that they are useless or encumbrances where they are. On the contrary, an extended experience in the duties of one rank would increase their efficiency in performing them. From the point of view of the individual, though his promotion were blocked, provided his emoluments increased until he had at least emerged from the beggary of a captain's pay, it is probable that his prospects would not be worse than in another profession, in which he would stagnate in a similar way. The officer who could not, or would not qualify himself for the position of a company commander, should be got rid of as incorrigible and worthless, and the sooner this is done the better for him, and for the service. Further under the proposed system of a lengthened course at the military college, a far better opportunity would be afforded of judging of a cadet's capabilities, and the probabilities of his turning into an efficient officer. There would be no hardship in setting lads adrift at this age, as the education they would have received would put them on a par with their contemporaries.

This principle of selection, which is but a particular application of the general law of nature,—the survival of the fittest,—when looked at from, as it were, an external point of view, apart from the traditions of the service, is one of such obvious importance that it is difficult at first to understand how it can have failed to establish itself. It is only when the history of the growth of our military system is studied that the reasons for its rejection, and the difficulties with which it has had to contend become apparent. Nevertheless, the principle is so well founded that it must necessarily prevail. The only question is, how long we shall allow tradition to stand against it. Until we are prepared to set this principle steadfastly before us, and resolutely determine to overcome all difficulties in the way of its complete supremacy, we shall fail to derive the best results from any system of education we may formulate.

This, then, is the third defect in our system and the proposal for its amelioration.

Part of our system of education of officers consists in putting them through short courses of instruction in certain technical subjects, such

Training in technical subjects. as field engineering, signalling, ballooning, mounted infantry training, and so forth. It is necessary that a number of selected officers should receive special training in such subjects; and it appears that, as the application of scientific appliances to warfare increases, so must the number and technicality of these subjects increase. But in the system, as it stands, there is an undoubted waste of power, and it appears that this waste might, to some extent, be avoided.

An officer goes through a month's course in, say, the judging of provisions, and in that time he acquires a smattering of the subject which will be useful to him, and perhaps acquires an interest in the subject, and would be glad to pursue it somewhat further. He then returns to his regiment, his mind is at once filled with other things, and from that day forth he probably never gives the subject a thought. The result is that a large number of officers go through these courses, and the service generally derives very little benefit.

There appear to be two principal reasons for this waste of power. The first is that the special knowledge acquired by the officer, during a very short course, is of such an elementary character that he does not feel that he is an expert in the subject; he does not advance so far as to make him a specialist. The second reason is, that after finishing the course the officer returns to regimental duty and is lost. There is no one to keep an eye on him, to find out whether he pursues the subject, or to offer him any encouragement in doing so.

Both these defects in the system are capable of improvement. For the first, the courses should be longer, and the number of officers instructed consequently fewer. An officer, after he has been through a course, should feel that he is really a specialist in the subject, and is able to impart instruction to others. By this means instead of turning out a few officers who have a useful smattering, we should train up a number of specialists and instructors throughout the body of regimental officers, who would, in their turn, impart to a far larger number the useful smattering. As regards the second point, the deficiency is the same as has been already pointed out in the case of general education. There is nobody whose special duty it is to attend to the matter, to keep an eye on these specialists and see that they keep up and make good use of their knowledge. The remedy has been already suggested, in the special educational staff. It would be their business to see that these specialists imparted their knowledge to their brother officers in the regiment and garrison, and so the advantage gained by the original courses, instead of being dissipated would be fostered and made to grow. This system is now adopted to a limited extent, for instance, in signalling. The officer who has become an expert signaller by going through a course of instruction, becomes the signalling instructor of the officers

and men of his regiment, and there is an inspecting signalling officer whose business it is to see that he keeps up his own knowledge, and imparts instruction efficiently. This system requires extension, the supervision coming from the special educational staff.

IV.—The education and training of staff officers.

The education and training of staff officers cannot be dealt with apart from the method of their selection, because upon the process of selection depends the foundation on which the system of training must rest.

Our system of choosing officers for special training for the staff is a combination of selection by merit and competition amongst those so chosen. A few vacancies are reserved for the nomination of officers who have on active service, or otherwise, shown a special aptitude for staff work.

Every commanding officer keeps a list of officers under his command whom he considers likely to make suitable candidates for the staff. In the ordinary course of events the first step towards obtaining an appointment is taken by the candidate himself, who submits an application to be allowed to compete at the entrance examination for the staff college. If the officer's name appears on the list referred to, his commanding officer forwards his application, and sends with it certain certificates from himself and the senior officers of the regiment vouching for the candidate's qualifications in every way, moral, mental, professional and physical, for the important duties of a staff officer. The general officer commanding the district, if he thinks fit, then appoints the applicant as a supernumerary on his staff in order that he may be able to report upon him after personal experience of his qualifications. The result being satisfactory, the officer presents himself for examination and, if successful, enters the college as a student. But though this is the system, it may be here noted that while considerable numbers of officers who qualify themselves in this way for employment on the staff are not so employed, there is also a considerable proportion of our staff officers who have not passed through the system of selection, examination or training laid down. The principles upon which such officers are chosen cannot be definitely stated. Many are chosen as having displayed conspicuous aptitude on active service, and the remainder, excluding personal staffs, are presumably chosen upon some system of selection by merit.

This system of selection, as thus laid down by regulation, is a searching one, and inasmuch as the officer is vouched for both by his commanding officer, who presumably knows him well, and by the general from personal experience of his work, it would appear that within the limits, at any rate, of the judgment of these two officers, no candidate could present himself who was not suitable. But for several reasons this result is not always attained. The commanding

officer does not judge from experience of staff work, but vouches for the candidate's possession of certain moral and physical qualifications, such as tact, temper, professional zeal, and so forth; and he is put in a very difficult position in doing so. For an officer to undertake the ordeal of the staff college examination he must go through a pretty stiff course of preparation and, for most, the preparation and subsequent course, if successful, involves a considerable financial outlay beyond their ordinary regimental expenses. The zeal is therefore difficult to gainsay. And it is a hard thing to say of a man that he is lacking in one or more of those qualities which, if absolutely essential in the staff officer, are certainly also most desirable in the regimental officer. And there is always the argument that A, who fills with distinction an important position on the staff, has just as bad a temper, in the early morning, as B, the candidate who, after all, is a very good officer, and would no doubt make an equally good staff officer, in spite of his little infirmity.

The general is a busy man, with many things to think of besides keeping an ever-watchful eye on a youngster attached to his staff. And that young officer must be a most unpromising specimen of his class who cannot pass a few months, with credit, in helping to 'run' a district office, or riding behind the general on a few field days, performing the duties of a glorified galloper. And so it happens, perhaps from the inherent weakness of human institutions more than from anything else, that this system of selection prior to the entrance examination is little more than a formality; and it is believed that the proportion of applicants who are refused permission to go in for the examination is exceedingly small.

But now for the examination. From the fact that it has to be carried out in all parts of the world under, as far as possible, absolutely equal conditions, it is necessarily entirely written. It may, perhaps, be best described as a hotchpotch of all the examinations that the young officer has ever faced, or will, with any fortune at all, be called upon to face, from his first awe-inspiring ordeal at school until the date when he may consider himself quit of this bugbear for life. It lasts for some 7 or 8 working days, involves the answering of some 12 or 14 separate papers, and embraces the whole range of knowledge; general and military, from conundrums in simple vulgar fractions such as might be solved by an intelligent lad of twelve, to the critical study of a set campaign; and as a means of selecting from a number of keen, capable, and intelligent officers those who have the best qualifications for employment on the staff, it is as efficient, and not one whit more so, than if these officers drew a number of coloured balls from a bag. It may be said that the object of the examination is not, primarily, to select, but to test the candidate's standard of education. Perhaps so. But in the first place there should be no necessity for such a test: this knowledge with regard to every individual officer should be available without special examination; and in the second place it is difficult to understand how this or any other object can be attained by setting a grown man down to write out

a selection of propositions from the first six books of Euclid, and other similar tests. To be able to inscribe a regular polygon within a circle may be a graceful accomplishment, but it is one which is of no practical use whatever to the military officer, be he staff or regimental. To learn how to describe the process with precision, and prove the truth of the result with accuracy is a most valuable training for the mind of the school-boy; but to include this and similar subjects in the entrance examination for the staff college must surely indicate that there is something seriously wrong with the principles upon which our system is based.

A limited number of successful candidates enter the college
Present staff college course. at Camberley, and there go through a two years' course. The subjects embraced by the course are of two kinds; general military subjects, and special staff subjects. The officers are also attached for short periods to branches of the service other than their own. This latter part of their training is a very necessary and important one; as a staff officer requires a very intimate knowledge of the methods of action, even of the feelings and lines of thought, of all branches of the service, in order that he may be able to direct their co-operation to the best advantage. The special staff subjects consist of instruction in what may be called the general duties of the staff, both in peace and war. But a large proportion of the time is devoted to the study, in the higher branches of general military subjects, military history, strategy, and so on, in fact the staff college is, to a large extent an institution in which the higher branches of the military art are studied. Now, it is difficult to maintain that these are specialities of the staff officer. Undoubtedly a staff officer requires a thorough knowledge of these subjects, and the higher his position on the staff the greater the knowledge required; but, surely, the statement applies with equal force to all officers. A knowledge of the higher branches of the military art is essential to the higher commands, but such positions are not exclusively appropriated to officers who have been through the staff college, nor can they be. Therefore we must not look to this course to impart such knowledge, it should be required by all officers, at least by all those who aspire to the higher commands, and the necessary teaching must form a part of our system of education for the mass.

But now we come to, perhaps, the weakest point in our system,
Wastage under present system. it is the wastage which occurs amongst those who have been through the college course. The number of officers who go through the college and who do not, subsequently, go on the staff is very appreciable. It must be presumed that the reason for this failure is that such officers have been found unsuitable, while at the college, for employment on the staff, and these failures are a gauge of the imperfections of the system.

But though it may be easy to criticise and pick holes in our present system, it is difficult to suggest remedies which will not be open to the same process. Our task is clear. We have first to select from the whole range of officers those who appear best suited for staff employment, and having done this to the best of our ability, we have to train our selections in these special duties pertaining to staff officers. As regards selection it appears that at least the present method by examination is capable of improvement.

It is impossible to describe in a few words the special qualifications required by a staff officer. The staff is the means of communication between the general and his command. Such communication is not confined to the publishing of a few orders. The compilation of such orders is an important function, but they have to do more, they have to transmit to the various units, the individuals, within the command, the wishes, the ideas, the very personality of their chief. They have to supply to a large extent the grease which lubricates the machine. The means by which this is done are very subtle, and the execution of such duties certainly requires special qualifications.

There are some men of whom it may be said without fear of contradiction "There is your model staff officer." But these are the few exceptions, and when we come near to the dividing line between who are, and who are not qualified, it becomes exceedingly difficult to discriminate.

It has been said that it is a hard thing for a commanding officer to have to say of one of his officers, "I consider such a one unfit for the staff," even though he may be inclined to hold such an opinion. But it is a much easier thing for the general officer to say "Out of the twenty candidates' names that have been submitted to me, I select A, B and C for the three vacancies." It has been proposed above that the general should have as his right hand man, for supervising and carrying out the education of all officers under him, a senior and distinguished officer, who will be acquainted with the professional qualifications and standard of education of the candidates. This officer's opinion, together with that of the officer commanding the regiment, should enable him to make a fairly good first selection. The officers thus selected should be appointed to junior staff appointments, for the usual period, say, from three to five years. At the end of this probationary period of actual staff employment, the candidate himself would have had an opportunity of judging for himself whether the special duties suited him; and those under whom he serves would be able to choose pretty correctly which were the best qualified to be selected for a further step. It is at this period that our staff college course would come in, the candidates being nominated according to their order of selection, without any examination at all. After having served for a few years in a junior staff appointment, an officer would be in a far better position to appreciate, and profit by a course of special training and education,

than one taken straight from his regiment and sent to the staff college. These young candidates for staff employment would be sent, as vacancies occurred, and in order of selection, to undergo their course at the college, and here a further process of selection, or classification, would take place which will be referred to presently.

Now, as regards their special training. The staff officer must be essentially a military officer, that is, he must be in close touch with regimental methods and feeling, but he must also be a specialist. His sphere of activity is ever widening, and must continue to do so as the methods of warfare become more scientific. We have had a striking example of this in our recent war, where the range of duties performed by staff officers has been so wide. Before the young staff officer goes through his course of special training, his occupation, during his probationary staff service, will have given him some insight into what may be called the general duties of the staff. It is at the college that he must begin to specialize. His speciality would be chosen partly by his own inclinations and desire, as expressed by himself, and partly by his qualifications as judged by those under whom he serves. Our staff college course would, then, be modified. It would no longer be what it is, to a large extent, at present, a course of study of the military art in its higher branches; that is already provided for by our system as proposed. It would be essentially a course of instruction in the special branches of staff duties, intelligence, transport, railways, supply, and so forth. It is probable that for, say, the first six months of the course, the instruction would be in general staff duties both to perfect the students in this branch and also to enable the governor to have a better opportunity of judging of the individual qualifications and tendencies of his charges, and so, with the assistance of opinions already formed of them, to come to an accurate determination of the branch best suited to each. By such a system it is believed that the number of failures would be reduced to a minimum. There would be very few cases in which an officer's services could not be advantageously made use of in one or other of the special branches, though there would be always a variety of merit.

It is unnecessary to go into the details of the college course. Under the proposed system of general education, it is believed that the standard of knowledge in general military subjects, of the officers selected, as throughout the army at large, would be at least as high as of the present staff college graduate. After a few months' training in general staff duties, the students would be divided into specialist classes, under experts, chosen from the very best available. It is probable that the system of attaching students to different branches of the service would require extension. The transport specialist would require a prolonged course of transport work; the intelligence specialist, of intelligence work; whilst the general staff specialist would require, again, a different course.

No more officers would be trained than were actually required to fill existing vacancies, and provide an adequate reserve. Those in the reserve would be serving in their regiments, but they would, in regular rotation, be brought into active staff employment; and by this means the system of alternate regimental and staff service would be maintained.

V.—Review and conclusion.

To review briefly—

The weakness and deficiencies in our present system which have been principally touched upon are—firstly, the neglect of the young officer during the first few years after his entry upon a military career; secondly, the want of an efficient and organized staff throughout the army to whom to entrust the systematic education and training of officers more especially in the junior ranks; thirdly, the defects of the present system for offering inducements to self-improvement and ensuring the selection of the best for all the more responsible grades, that is in and above field rank; fourthly, the selection and training of staff officers.

With regard to the proposals generally; no originality is claimed for any of the ideas brought forward. Some of the principles guiding the suggestions made are already recognized, and the process of reform based on them is in progress: but our failure to attain that high standard of military education, which 20th century conditions require, must be admitted, and that failure is undoubtedly due to the fact that we are, in some directions, working on wrong lines.

The proposal for a lengthened course at a military educational establishment, prior to entry on regimental duty is, it is believed, of fundamental importance. The idea is no new one. The subject was brought to notice in a recent lecture * at the Royal United Service Institute, and the lecturer explained how the idea had been espoused by high authority as far back as 1861. His proposal was the founding of a military university course in connection with our existing universities, but it is believed that the present proposal, which is an extension and development of our existing military colleges, presents fewer difficulties, and is calculated to produce a better result. Working upon the fundamental principles of education briefly recited in the early part of this essay, the youth has been provided with a systematic training, under close supervision, up to the age of 23. Upon joining his regiment at this age, it is still possible to mould him to these ideas and instincts which set apart the military class. But his mind has been so developed as to tend to increased breadth, rather than to narrowness, which latter is, unfortunately, apt to be induced by regimental life.

The second proposal—the establishment of an organized educational staff whose sole attention would be directed to the question of the education and training of officers—contemplates an addition

* Education and its Ancillary. The military problem by Lieutenant-Colonel James Baker, R. U. S. I Journal, September 1902.

to the existing staff, but it would absorb, to some extent, existing establishments. It does, however, present one great difficulty; that of the selection of officers for the most important duties of education. Such officers, whilst being endowed with the highest intellectual qualifications, must be essentially men of action, if they are to produce pupils who are men of action. As regards the powers of imparting instruction: as every officer has to play the part of instructor, from almost the moment he joins, throughout his service, surely there must be many who have developed, to an abnormal degree, that quality which can be acquired by practice alone. It is believed that there are to be found, amongst our most distinguished officers, men eminently qualified for the position. But the position must be made such as will attract them. The idea of becoming a professor is one distasteful to the active soldier; and it is to be feared that, not only in the army but amongst the community at large, the avocation of teacher is looked upon far too generally as but the resort of the destitute, rather than as one of the highest and most responsible positions attainable; and it is this feeling which has had such a deleterious effect upon our national educational institutions. But if we realize the importance of the task, and place its exponents in their proper place, we shall find that the difficulty of obtaining qualified teachers will disappear.

The plea for a rigid system of selection is perhaps the most difficult of realization. But it is a system which has been growing for some years, and must assuredly reach maturity. It cannot be disguised that there is prevalent in the army a feeling of distrust in this matter, and it is a feeling which has unfortunately some foundation. It is that if such a system were introduced it would lead and, so far as the system exists, does lead to favouritism. Man is but human, and so far as this evil exists or may exist, it is one which is founded upon inherent weakness. No human institution is perfect, and we can but strive to do our best to act with equality and justice. But it is confidently believed that a strict system of promotion by selection, that is selection of the best, to field rank and above; if honestly and openly carried out to the best of human ability; even if it gave rise to a few cases to feelings of jealousy, would have such a stimulating effect upon the whole body of officers throughout the service as to confer incalculable benefits, both in the way of increased efficiency, and in the strengthening of that higher discipline which rests upon the confidence and trust which is placed in acknowledged capable commanders.

The proposals brought forward with regard to the training of staff officers are directed towards minimising the wastage of the present system, as well as providing a corps of specialists in every branch of staff work.

It was a condition laid down in the title of this essay that the suggestions should be practical. It may be said that the proposals brought forward are revolutionary, that they undermine the whole fabric of our present system. We have had a very striking example

set us recently in the revised system of training established for officers in the sister service. The requirements in the two cases are not dissimilar, and they have been necessitated in each case by the imperative demands of modern warfare for wider and more liberal methods of education, combined with the training of specialists. But in the case of the army, we have had the advantage of a very palpable object lesson in the shape of a three-years' war. The author is not one of many who are of opinion that the whole of our past ideas on the waging of war have been upset, and that we must start afresh to devise new strategy and new tactics in accordance with those of our recent foes. But as regards the education and training, and more especially of officers, the lessons brought home to us have been so palpable that he who runs may read. The changes of system recently adopted by the navy appear, to the casual observer, to be as radical, if not as revolutionary, as to satisfy the loudest calls for reform; and assuredly it is not by half measures that we shall achieve great results. But our system is far from having arrived at the point at which a revolution is its only hope of salvation, and the suggestions brought forward are not framed in any such spirit, but rather as modifications and improvements of what exists. There is no deficiency in the temper of our material, and the metal is now hot, and but a few vigorous and well-directed blows are required to bend it to our needs.

There has arisen but yesterday throughout the British nation a feeling of appreciation of the magnitude of our Imperial possessions, interests, and responsibilities; and this feeling must appeal, above all, to the soldier, who not only shares the responsibility of guarding this sacred trust, but who is the pioneer of civilisation. Though our system of education and training must, to meet the needs of the average, be based upon a system of driving by fear of punishment to a certain point, and coaxing by hope of reward beyond, yet for the attainment of great ends we must ever rely upon the realisation by our officers of the nobility of their profession, and their sense of patriotism, of loyalty, and of devotion to King and Country.

III.

BY MAJOR J. C. RIMINGTON, R.E.

Motto :—"Fiat Lux."

In the dark days of the early part of the Boer war, the complacent and easy-going temperament of the British people was suddenly shocked and alarmed by a series of severe reverses to our arms.

After the pride and satisfaction with which they had seen the splendid army, as they thought it, and as it was described by newspaper correspondents, despatched from our shores, with much-belauded generals in command, the news of the sequence of disasters came as a terrible revelation to them. The British army, for which they paid so much and which politicians had informed them was thoroughly efficient in all respects, was found wanting in the day of trial and was weak as an ill-forged weapon.

It is true that soldiers had continually, in season and out of season, impressed on the nation the defects of our military system; the attenuated 'squeezed lemon' condition of our infantry battalions at home, with which serious training was almost impracticable; the cavalry regiments that had horses sufficient for only two-thirds of their men and no reserve; the artillery that had only enough batteries for about half our forces; that facilities were lacking for training, either in regard to manœuvring grounds, rifle ranges, field engineering or many other respects; and last, but not least, that the army was administered by a civilian minister and civilian staff at the War Office, who had no technical knowledge for the work on which they were engaged. These facts had been impressed on the nation again and again by military critics and officers; but theirs was professional opinion and the British public has ever shown itself averse to listening to professional opinion. It is this distrust of professional men which causes it to permit civilians to be placed in charge of the two most important and most technical branches of the public service—the navy and the army—though, at the same time, it would scout the idea of an admiral being made Lord Chancellor and would deride if a soap boiler were placed in the position of manager of a railway.

After each of our larger wars, the Crimea, the Indian Mutiny and the Afghan war, there has been a popular clamour for army reform; but in each case, on the return of prosperity, the lessons were quickly forgotten and the nation relapsed again into its lethargic state of satisfaction and confidence, trusting that if we should have war again, we should "muddle through" as we had done before. In the Boer war our hard knocks came in quick succession and there is no doubt that the nation was seriously alarmed. Let us trust that the prophecy of the Austrian Field Marshall Radzanhofer may not come true, that we should do again as we had done before—nothing!

The public demanded an enquiry into the questions of army organization and the conduct of the war, and, since newspaper correspondents had continually dilated on the ignorance and stupidity of the British officer and his lack of all military characteristics except foolhardy courage, a court of enquiry on military education was also called for. Perhaps the British public were the more taken with this outcry, concerning the lack of military education, from the fact that the whole question of national education was under review at the time, since it had been continually dinned into their ears, that their merchants were left behind in the race for commercial trade owing to the superior education, both secondary and technical, of the nations that are our rivals.

Of course the British public had no knowledge whether our want of success had been due to a lack of military education, nor probably had they any very definite idea of what they meant by military education; but, if they had been a clear-thinking and close-reasoning people, they would perhaps have wondered why it was that the Boers, who are perhaps the least educated of civilized nations and certainly in the matter of military education are the least instructed, should have been the people to inflict these reverses on our troops.

The Government readily conceded the demand for an enquiry on the education of the officers, the more so, perhaps, that it diverted public attention from the more radical defects of our military system; and, whilst the investigations and recommendations of the Education Committee have been published publicly, the proceedings of the Commission on army reform and the conduct of the war are being held with closed doors!

Now it might have been expected that, as the committee was appointed "to consider the education and training of officers of the army," its members would have consisted mostly of officers selected for their special knowledge of the subjects of military education and training; instead of this being the case, the committee consisted of three members of parliament, two schoolmasters and two officers at present in the service, one of whom had to resign early on being promoted to a high appointment. The secretary was a smart young officer, who had written two or three diatribes on the army and caused quite a sensation with them amongst the British public. We see again that the same distrust of the professional man contributed to the appointment of a committee in which the majority were civilians, to report on a military subject. It would be equally wise to appoint a committee of mechanical engineers to report on naval training because there is a great deal of machinery in the navy. The report of this committee has been characterised by Dr. Maguire as "honest, laborious and true"; undoubtedly it contains an amount of valuable information, but at the same time it must be admitted it has a strong tinge of the schoolmaster interest which will be adverted to later.

Now before we proceed, perhaps it will be advisable to turn again to the Boer war and enquire whether our reverses there were due to our inefficiency in military education, or to what they were

due. An American military writer, *Journal of the Military Service Institution of the United States, America.* Major James Chester, United States Artillery,* after a careful analysis of the

three phases of the war, arrives at the conclusion that "absence of a certain thing caused all the disasters and the presence of that thing made all the successes possible," and that thing was "sufficient transportation." This cannot be laid at the door of the inefficiency of officers, but rather that of the War Office or the Government. Whilst, however, acknowledging that there is a great deal of truth in this statement, it can hardly be held to account for all our weakness.

In the first place our military system appears to account for a good deal; secondly the novel conditions of the warfare, due to magazine rifles, smokeless powder and an enemy composed almost entirely of mounted marksmen; thirdly we were placed from the first at a serious strategical disadvantage by inadequate preparations and want of foresight on the part of Government.

The defect of our military system was that our army was devised, trained and equipped for a conflict with a European force and was not adapted for a war with a nation consisting of some of the best guerilla material in the world. The Boers, brought up in a simple hard mode of life, were trained from their earliest youth to self-reliance and self-defence: they were hardened to all out-door work, and were accustomed to camp and bivouac, besides being mostly keen hunters with long eyesight and great skill in the use of the rifles. Every man owned a wiry horse or two and was as much at home in the saddle as on his feet.

Against these men were pitted the British battalions composed largely of men from the great towns of Britain, who knew nothing of that self-dependence engendered by a wild country life and whose natural attributes of self-defence, quick perception, resolve, and steady nerve, had been blunted by the peaceful effects of civilization, and whose distance of vision had been limited by the length of the streets in their native towns: half the men in these battalions were reservists, who had become rusty in discipline and the use of arms, and so were lacking in cohesion: the mounted troops were supplied largely with raw untrained horses which having lost condition from their long sea journey were no match for the hardy Boer horses: the staff of the army were untrained to work together and to a large extent were unaccustomed to handle large bodies of troops: lastly there was no adequate transport and all had to be collected and improvised. What wonder then if, at first, when our troops were so heavily handicapped, our army suffered reverses! At the same time there can be little doubt that the officers selected for the highest commands were in some instances found wanting. This does not prove, however, that they were not properly educated or trained in military acquirements: the Tey bridge was designed by one of the

greatest British engineers and caused a terrible disaster; the Brooklin bridge, a masterpiece of American engineering was lately found to be failing: one of the finest British admirals sank his ship owing to a false manœuvre; did not Mr. Gladstone's policy in Egypt and South Africa entail enormous loss of life and money? And did he not wreck his party over Home Rule? Numerous instances of failure in different walks of life can be quoted; but the failures of a general in command are more noticeable than those in peaceful professions, because they involve loss of life and of national prestige.

In the first portion of the war, when our troops were immobile through want of transport and of mounted troops, the Boer forces had very much their own way, and, owing to the extreme difficulty of reconnaissance against their mobile bands and the little knowledge that could consequently be obtained of their movements, the cry began about the British officer being untrained. In the second part of the war, from the time of the arrival of Lord Roberts to the occupation of Pretoria, we were winning all along the line and we heard no more of the officer's inefficiency. But when during the third portion, guerilla fighting commenced, the most difficult of all operations to suppress, and "regrettable incidents," which are the inevitable outcome of such warfare, began constantly to recur, the British public, incited by their newspaper correspondents, again raised the clamour about the ignorance of our officers. They knew nothing of the difficulties of the situation, but they strongly resented the pin-pricks and demanded that some one should hang, so the British officer was held up to obloquy.

As a matter of fact, the comparatively quick suppression of this guerilla warfare was probably one of the most notable performances of the war, and should have gained the highest praise for the British officer.

Let us again quote Major Chester concerning this period, which he describes as "the best example of guerilla warfare that we know anything about. Much has been said in praise of the guerilla chiefs and Dela Rey's escapes and surprises seem little short of marvellous. And yet investigation shows that there was nothing extraordinary about them. Colonel Mosby operated within fifty miles of our national capital for nearly four years, and although sometimes surrounded by hostile armies and actually living inside their lines was never captured. How did he escape? Simply because every man, woman and child in the district where he operated were spies voluntarily in his service. Not an expedition or scouting party could start out from any part of the Union Army, but Mosby had early information of its strength and destination. It was easy enough, therefore, to get out of its way, or when deemed advisable to ambuscade and surprise it. Mosby's command was small; it had less than a hundred men in its permanent organisation, but recruits from the peaceful farmers of the region increased its strength for special service to two or three hundred men. When the special service was accomplished the extra men resumed their

open occupations as peaceful farmers and their secret occupation as scouts and spies. It was the friendly inhabitants, who gave him success. And so it was in South Africa." Although it was inevitable in such case that our officers were sometimes taken at a disadvantage, and, in spite of the inherent difficulty of the problem to suppress this guerilla fighting, yet it was suppressed and much more quickly than in other parallel cases.

Taken simply from the Boer war, then, we see that a general charge of inefficiency cannot be brought against our officers or rather, in fact, we see that the British officer quickly adapted himself to the new conditions and rose to the occasion, as he has ever done. Although it is the fashion with the British people to decry their officers, the fact remains, which the British people do not sufficiently realise, that it is the British officer and the class to which he belongs that has built up and extended and maintained our empire. It is not their 'education' that has made them do this, but it is the strong spirit of independence and self-reliance in them, and the tact and grasp and initiative that they have, that have made them rulers and fitted to command troops of their own and every race under the sun.

Although, however, we can find no sufficient reason for the strictures that have been passed on the British officer, the report of the Committee on Military Education shows that there is a certain amount of dissatisfaction in the army itself with the literary attainments of some of the young officers and that the training of our officers after they have been accepted into the army is undoubtedly defective. It really would appear to be greatly to the credit of the British officer that, in spite of his defective training, and in spite of his being a 'dullard' and an 'ignoramus,' and that 'keenness is not the correct form,' he has managed to come so well out of this war. It is probable that this literary defect cannot be attributed to officers who have passed through Woolwich and Sandhurst, as these men have been educated up to the best standards of our public schools; but, when we are told that 1,400 commissions have been given during the war direct without any examination, and that about 260 militia candidates have been admitted yearly whose literary attainments, as displayed by their examination papers, were of the most meagre description, it is hardly a matter for surprise that there has been a complaint of lack of education.

It is necessary for us then to enquire into the defects of our system for providing suitably educated officers and to propose remedies.

In the first place it is well, in order that we may have a definite objective in view, to consider what are the attributes required for a military officer.

He should have knowledge of men and influence over men and be a strict disciplinarian; he should be possessed of self-reliance, ready perception, quick decision and prompt initiative; he must be

full of resource and the most practical of men ; and he must be devoted to duty ; physically, he should be sound of wind and limb, a good rider, a keen sportsman and have a quick eye for country.

It is, of course, unlikely that all of these characteristics will often be found combined in one individual ; but these are the special qualities which it should be the aim and object of military education and training to develop and, it should here be noted, these are the qualities most strongly innate in British men. As Sir Redvers Buller has said, " It is this spirit of independence and self-reliance that caused British merchants to found our Indian empire, that sent the Pilgrim Fathers across the sea to initiate the greatest Republic of the day, and the same spirit that caused Gordon to go alone to Khartoum to rule the Soudan and that caused Rhodes to found Rhodesia and to conceive the great idea of another British empire in South Africa : the same spirit that makes the little Middy boy rule among grown, bearded men in a manner which has no parallel in the army." The next question which we have to consider in order to have a proper understanding of our subject is " what is education " ? The popular reply to this would probably be " the instruction of the young." But this is only a secondary part of what should be intended by the term " education," and Locke has designated " instruction " as the " least part of education " Education is the development of every faculty, both mental and physical, of the human being : on the mental side, it is the cultivation of the brain power to enable it to acquire knowledge from everything with which it comes in contact during its existence : on the physical side, it is the development of the instinct to care for the body, to harden the muscles, develop the lungs and train the hand and eye. It will be at once seen how this differs from instruction only. Education is obtaining the best out of a man, whilst instruction is only the imparting of knowledge to him, that is, it is a subordinate part of the whole : experience, or the acquisition of knowledge by the man, is as important a part of education as literary instruction.

From the above definition we deduce the meaning of the term " military education " to be the development of a man, mental and physical, with special regard to his efficiency in war.

We now begin to have some notion why the outcry about military education was a false one. A certain proportion of our officers were undoubtedly deficient in literary teaching, but this is only one particular branch of their training, and, if they were well educated in other respects, in knowledge of men, self-reliance, presence of mind, physical and other warlike qualities, then they were as well, if not better, fitted to be officers than others who might be superior to them in literary attainments, but deficient in other respects. The Committee, however, have mostly dealt with the subject from the schoolmasters' point of view. There are usually conceded to be three distinct periods of education : (i) the *primary* period, when the brain of the child is first taught to reason and the elements of learning are imparted to it ; (ii) the *secondary* period,

that from childhood to adult age, when the scientific development of the intelligence is continued by a higher class of instruction and the brain becomes duly fertilized and suitable soil for the reception of the seed of (iii) *specialized or technical* education for the particular path of life chosen. It has been often said and, undoubtedly, with much truth, that the most important part of the training of a human being is the *primary* portion, the period when the dawning intelligence of the child can be fashioned and formed by the character of its surroundings and when the best instincts of its nature can be cultivated. In an admirable lecture by Lieutenant-Colonel Baker on "Education and its ancillary" we find this question of the development of the child dealt with in a most lucid and scientific manner. He points out that the child has an individuality of its own created by three factors, the forces of heredity, free-will, and environment in a former life, and that, in our treatment of it, we must form a clear and definite idea of the form and character of the objective we have in view, that is of the manner in which we wish to train it. This objective of ours should be to teach the child "to observe, to reason and to judge."

There can be little doubt that the future of a boy depends largely on the first instruction he receives and on the "grounding" that he goes through in the early days of his youth: if from the first he is taught to use his brain properly "to observe, to reason and to judge," the force of habit will be inculcated in him and his power of reasoning will be steadily developed. Since the instruction that is to be imparted to the child in his early years is so important, it follows that the instructors should be excellent and Colonel Baker describes them as the "architects of the future character of the nation." Unfortunately nothing that we can propose can affect the primary education of the child, specially for military requirements. This is a part of the general system of education of the country; but it is one of the gravest duties of Government that the highest possible qualifications should be demanded of the teachers who instruct in our primary schools.

We come next to the question of secondary education and we should bear in mind the importance of the continuity of the scientific development of the intelligence of the child through the period of youth: consequently we do not wish to decide on a curriculum framed merely on a list of subjects that we think it advisable that the youth may know; but we have to consider which of those subjects are suited to continue the course of brain-training he has already undergone and which are likely to develop his power of thinking and his knowledge of the world: also we must take into consideration what subjects will be of general use and advantage to him in whatever profession or trade he may enter. As Colonel Baker says, "the effective termination of secondary instruction has no reference to any special pursuit in life, but it should be so far potential as to place the adult mind in a commanding position for applying its powers to the best advantage."

This certainly is the sound and logical way of looking at secondary instruction, though there is a strong tendency in these days of fierce competition to desire that a boy should specialize early ; that if he is to go into a merchant's office he should learn book-keeping, or if he is to be a lawyer, that he should learn law, and so on, in order that he may get a bit ahead of his fellows. What he gains in those subjects, however, will be more than accounted for in the loss he has sustained in sound education.

We see then that it is not advisable for the military profession, any more than for any other, that a special course should be laid down during the period of secondary instruction. There are two respects in which this statement might be qualified, *viz.*, in the matter of discipline and drill. These are of great importance ; but though they are usually looked upon as specially military subjects, they are equally desirable, if not necessary, for the education of all youths. Discipline is necessary to teach the youth the qualities of obedience, order and duty, without which he cannot become a suitable member of society. Drill (including gymnastics) should be a portion of the physical development of every member of the community and should be laid down by law to be taught at every secondary school. Fortunately, in most of the better schools in the British Isles, discipline is enforced, though not of course as a rule of such a rigid type as military discipline, but it doubtless has its effect in the moulding of the character of the British youth. Drill also is almost invariably taught : in fact, there is little to be gained in discussing the physical development of the British school-boy as the usual complaint is that now-a-days at our schools mental instruction is sacrificed largely to games and physical training. Suffice it to say that with drill, gymnastics and a suitable amount of outdoor games the physical condition of the youth ought to be fully cared for.

Now let us consider the subjects that we think it advisable to place on our curriculum. First, it is most important that every Englishman should have a thorough knowledge of his own language and its literature ; that he should be able to express himself in it accurately and clearly, that he should be generally well acquainted with its history, and that he should be well versed in the geography of the British empire.

Secondly, every man should be thoroughly grounded in mathematics, as being the best possible process to teach him to reason and think clearly and to be accurate : and also on account of their practical utility.

Thirdly, modern languages are an important part of a sound education, as they give us an insight into human nature and a knowledge of other nations ; they cultivate the power of thought and expression ; and they are of great practical advantage.

Fourthly, natural science is now-a-days essential to the education of everyone ; it gives excellent mental training, as it cultivates the observing and reasoning faculties. Fifthly, Freehand drawing

is not only excellent training for the combined working of the hand and eye, but also cultivates the reasoning powers and is invariably useful in after life.

The above subjects form the foundation of a complete education, and if scientifically imparted, will provide the perfect development of the intelligence of the individual. In this curriculum we have purposely omitted the ancient languages, Latin and Greek. The Committee on Military Education remark that Latin from an educational point of view is most important and is superior as a means of mental discipline to modern languages (at least as generally taught): about Greek they make no special remark, but recommend it as a voluntary subject. It seems strange why there should be this craze for the dead languages as a necessary part of a sound education? It is held that these languages are a means of training the mind and of developing thought; and that they are of assistance in the acquisition of other languages such as French and German. But are not other subjects, such as science, mathematics and modern languages equally good as mental training and are they not of much greater use in the ordinary work-a-day world? And would not the time spent on learning dead languages, if devoted to German or French, more than account for the extra assistance to be derived from the knowledge of classics? The amount of time that is spent over classics in English schools is appalling, and despite the Committee's opinion on the teaching of Latin, there appears to me to be a great deal wanting in the methods in which it is usually taught. The ordinary English school-boy spends hours every week over Latin grammar and syntax or perhaps over that singularly futile task of trying to write doggerel Latin verse. The fault of the teaching is of course with the masters, who rarely are imbued with the spirit of the classics, especially the junior masters at schools, who generally are selected for their skill in outdoor games, rather than their knowledge of the best method of instruction: consequently, in the lower forms the younger boys are taught Latin and Greek in a perfunctory manner and so never enter into that sympathy with the language and customs of the ancient peoples that is indispensable for the proper study of the classics.

Writing in the "Times" of the 27th December last, an Indian civilian, evidently of high standing, said that through all his service he "never found Greek to be of the slightest use except to assist in tracing the derivation of a few words in scientific English, while the time he spent in acquiring that language would, if devoted to modern languages or science, have been of the very greatest advantage to him in a career in which knowledge of any kind could have been utilized." Colonel Baker also in his lecture stated that he was told by one of the best classical scholars in Great Britain and a late headmaster of one of our oldest public schools that he considered the craze for Latin as a compulsory subject in education as lamentable and disastrous to the cause. It is significant of the new feeling prevalent on this subject that at Oxford a motion to do away

with Greek as a compulsory subject was nearly carried, and that the Headmasters' Conference is very divided on the subject of classics.

Let it not be understood that because we have laid down a curriculum above, only the subjects contained in that list are suitable and indispensable for a good general education. It is merely put forward that these are probably the best subjects for conveying a good mental training and giving a satisfactory 'potential' education. If, however, a boy has been thoroughly well instructed in a classical education or has obtained an extensive knowledge in general history, or in geography and geology, in place of one of the subjects we named, then that boy may be as well educated as if he had confined himself to our curriculum.

Further, inasmuch as the mental capacity of boys differs very largely, we must accept the fact that the education of some boys will be much more extensive than of others and so we will find a large number of boys extending their knowledge beyond the limits of our curriculum. The list of subjects that we have given are the basis of a sound education, but of course are not the limit of one.

Since we have accepted the fact that this is the lowest standard of education that we can consider acceptable for the embryo officer, so we must fix our scale of examinations accordingly and insist on every man who proposes to become an officer passing that standard. From this we are led at once to agreement with the Military Education Committee in their proposal that all candidates for the army, whether for Woolwich or Sandhurst, or from the militia, should pass the same examination and that those who obtain the highest places by competition should be entitled to make their choice between Woolwich and Sandhurst, whilst for militia candidates it would be qualificative only. Moreover, in order to allow scope for the superior mental development of some youths to display itself, in addition to our list of subjects above we must allow for such other voluntary subjects as may be held to be fitted for a sound mental training and useful knowledge.

The mathematics which would be taken up for the qualifying examination would be quite elementary and would include arithmetic, algebra up to quadratic equations, Euclid books I to IV, trigonometry including solution of triangles, mensuration and geometrical drawing.

Higher mathematics would be divided into two parts; part II, which would be obligatory for Woolwich candidates, would consist of more advanced knowledge in the subjects of part I and statics and dynamics; part III would include conic sections, analytical geometry, and differential and integral calculus.

In modern languages, as French or German are the prevailing languages through Europe and are the most useful practically, one or

other of these must be taken up as a compulsory subject. As a voluntary subject any other modern European language (Russian, Italian, Spanish, Dutch, Turkish) or Hindustani should be permitted. Latin also should be admitted as a voluntary subject, in order that a boy who had received a good classical education should not be heavily handicapped.

Greek should not be admitted in any category. Of the sciences, chemistry and physics should be part of the obligatory or qualifying examination ; electricity and magnetism being a voluntary subject.

We thus get the following list of subjects for the examinations :—

Obligatory or qualifying examination.

	Marks.
1. English	3,000
2. Mathematics, part I, and geometrical drawing ...	3,000
3. French or German	2,000
4. Science (chemistry and physics)	2,000
5. Freehand drawing	750

Voluntary subjects.

	Marks.
Mathematics, part II	2,000
Ditto, part III	2,000
Latin	2,000
One language (German or French, Russian, Italian, Spanish, Dutch, Turkish or Hindustani)	2,000
Electricity and magnetism	2,000
Physiography and geology	2,000

All the obligatory subjects would have to be taken up by every candidate, and for Woolwich, higher mathematics, part II, would be obligatory : in addition to these one voluntary subject should be allowed.

No candidate should be considered to have qualified unless he had made 50 per cent. in each obligatory subject, except freehand drawing, in which 33 per cent. would be passing marks, and in a voluntary subject no marks should be counted unless 40 per cent. were made in it.

As regards the age at which candidates should be allowed to compete for the examination, at present the age of entry into Woolwich is between 16 and 18, with a two-years' course, and for Sandhurst between 17 and 19, with a one-year course, whilst militia and university candidates are able to compete up to the age of 22, or in certain cases, 23 years.

The Committee consider that an officer of 18 years is unfitted to serve abroad ; but this fact is not borne out by the annals of our

service, for most of our distinguished generals were in the service before this age. Wellington entered the army at 18, Sir John Moore at 15, Craufurd at 13, Picton at 15, Colin Campbell at 16, Outram went to India at 16, and the Lawrences went at 17. In fact in the old days it was the exception for an officer to get his commission later than 16.

In fixing a limit of age we have two conflicting conditions to consider: one is that we wish the youth to receive a complete general education before entering a military school; the second is that, the earlier he is subjected to military discipline and training, the better officer he is likely to be: we see this from the records of the past and we also may learn from examples of the present day, for it is this subordination to discipline and the early inculcation of the military habits of self dependence, initiative and command that makes the naval officer the splendid type of officer that he is.

Doubtless if we look at the subject from the schoolmaster's point of view, from which it is probable the Committee saw it, it would be better to raise the age limit; but I can find no sufficient reason for doing this, as a well-educated boy should have gained a thorough general education by the time he is 16½ or 17 years of age. If we allow for a 2-years' course at Sandhurst and 2½ years at Woolwich, then, in order to obtain uniformity of age at which army candidates receive their commission, the age for Woolwich should be 16½ to 18 and for Sandhurst 17 to 18½. Militia and yeomanry candidates would be allowed to pass the qualifying standard of this examination, at any age before going up for the competitive military examination which they would have to pass before the age of 22, or in certain cases of 23.

Another recommendation of the Committee is that the supply of officers for the army from the universities should be increased. They say that the universities are willing to provide a course of instruction up to any standard that the War Office may wish to impose and that their men would receive a technical military training in the University Volunteer Battalion, which would be remodelled with a view to making it an instructional battalion with facilities for giving instruction in the three arms. It is hard to realize that a proposal is actually put forward, apparently in good faith, to form a school of instruction for officers out of a volunteer battalion. The main point that the Committee seem to have lost sight of is that, before an officer is fit to command, he must have been subjected to discipline and subordination, whereas the universities, as they are at present, are about the last places in which a youth would be disciplined: in fact, unless special military colleges were formed at the universities, it would seem to be quite impossible for youths to be suitably disciplined for officers amidst such surroundings. Further, it is well-known that unless a man is subjected to discipline at an early age, he is less and less amenable to it as years go on: thus the 'Varsity graduate of 22 or 23 is severely handicapped in this matter and does not form the best material for a military officer,

in spite of the superior knowledge of the world that he may have acquired.

From this we see that it is inadvisable to give direct commissions from the universities, as proposed by the Committee, but that university candidates should enter through Sandhurst, or else, through the militia.

A direction in which the grant of commissions might well be extended is in that of Kingston College, Canada. This excellent establishment has given to the British army many brilliant and practical officers and it would undoubtedly be greatly to the advantage of the service if the number of commissions granted to Kingston cadets were greatly increased.

It is highly desirable also that a number of candidates from colonial universities should be admitted to the service, but they should be under the same rules as other university candidates and should pass through Woolwich or Sandhurst or the local forces, unless the colonies founded military colleges similar to that of Kingston.

We have now to deal with the course of instruction at the military colleges, and so we pass out of the limits of general education and come into the arena of specialization. From henceforth we must keep always before our eyes the fact that every atom of instruction imparted at a military school should be aimed with absolute singleness of purpose, at the one object of *efficiency for war*. It is largely in this respect that our military colleges have been found wanting, Sandhurst perhaps more than Woolwich. There has been a tendency to make the work too academical instead of being purely practical: I do not wish it to be understood from this that theory should not be studied. Theory is as essential to the correct study of any subject as practice is; the one is the complement of the other, and neither can be held to be complete in itself. But during the necessarily short duration of the course at a military school it is imperative that only such knowledge as is of direct practical utility should be gained: there is no time available for a cadet to indulge in studies such as English, Latin or French literature, excellent though such may be in a general way; these are pleasures which must be deferred until he has passed the rubicon and is safe in the service.

We have touched above on the length of the courses at our military schools—Sandhurst one year, Woolwich two years; and it appears that they are undoubtedly too short considering the amount of work that has to be got through. At the Military Academy at West Point, which is always quoted as an ideal school, the course is for four years, but this includes general as well as military subjects. Kingston College, Canada, which is probably little behind West Point in excellence and which sends us such skilled young officers, had a four-years' course which was recently reduced to three, but in all probability it will shortly again be raised to four years. In Germany the upper cadet schools, to which boys go at 15 years of age, have a four-years' course, which comprises general subjects as well as special

military ones. After two years, if they pass their examinations successfully, the cadets either go to the army as brevet ensigns, when they serve as probationers with regiments for five months and then go to a war school for nine or ten months: or, they pass into the "selecta" class, which corresponds to our military schools and at which only military subjects and modern languages are taught. The Austrian system is similar to the German. In France the courses at St. Cyr and the Ecole Polytechnique last two years. In Russia the courses at the yunker schools are for three years and in the war schools two years. We see then that in all other nations two years is looked upon as the least time suitable for the training of officers. This is the length of the course that we should propose to appoint for Sandhurst: for Woolwich, where a rather more extensive list of subjects is taken up, it should be made two and a half years as it was previously.

The first and most important subject to be taught at a military school is discipline, for, until a man has learned obedience, he is not fitted to command. Discipline is subordination of the will on the part of many individuals to one controlling authority: it is the bond which gives a military body the cohesion and power necessary for military efficiency. Its value is acknowledged by every military writer, but it is not known to the civilian, "the man in the street," who thinks that the volunteer is the equal of, if not better than, the regular; consequently the Committee with its strong civilian element, evidently has not realized the importance of discipline in a military education, as they have not referred to it.

It is beyond the sphere of this article to dwell upon the value and absolute necessity of discipline to ensure military efficiency, but, if there are any who wish further evidence on the subject, I would refer them to the early part of Colonel Henderson's "Life of Stonewall Jackson," in which the value of discipline is ably expounded. In Lord Wolseley's introduction to this book it is stated that one army corps of regular (that is, "disciplined") troops would have turned the scale of the Civil war although the North had 2,000,000 men and the South 750,000 men to draw upon. Another well-known instance is that during the Franco-German war of 1870-1871, when the Germans with about 120,000 men first beleaguered Paris; the French had 500,000 men with arms in or around the city, but inasmuch as they were undisciplined and not organized they were powerless to resist the welding of the fetters by the trained German armies, that were to cause the downfall of their city.

It is often now contended that the looser formations and more individual action required of soldiers of the present day has relaxed the bonds of discipline. Never was a more inaccurate theory propounded and its acceptance can only be attributed to a totally wrong conception of what discipline is. If we recognize that it is the subordination of all individual effort and implicit obedience to one guiding authority, then we understand how it is more than ever necessary to conform to discipline intelligently, now that the formations are looser and drill is relaxed.

As Colonel Parsons pointed out in an article in the R. A. I., proceedings on the "Instruction of officers, non-commissioned officers and men, etc." a naval man is a disciplined man, but it does not affect his individuality, also a good football or polo team is a disciplined team, inasmuch as each man plays under certain orders and with a fixed object, but it does not interfere with his individual efforts. Thanks to their lack of discipline, the Boers lost many valuable opportunities of reaping the fruits of their victories and inflicting on us much more damage than we received. It was lack of discipline in Jackson's forces that saved Banks' army from destruction in 1862 after the actions of Front Royal and Winchester.

In the training of cadets we should the more emphatically insist on a rigid discipline in order that the seeds thus sown in their breasts during the course may bring forth fruit in a higher system of discipline in the regiments with which they will be hereafter connected as officers.

The cadets should be divided up into companies with non-commissioned officers appointed from amongst themselves, the remainder being treated as privates: each company should have its own officers who would be entirely responsible for its drill and discipline; the cadets would thus gain some knowledge of the position of the private soldier and would learn the duties of non-commissioned officers.

At a training establishment for officers it is imperative that drill should be taught thoroughly in all its branches and the greatest care should be taken in its instruction in order that not only the stiff barrack square movements may be learnt, but that, what is more important, the guiding principles and aim of drill should be thoroughly mastered. At Woolwich cadets are taught drill thoroughly; at Sandhurst, according to the statements of the governor and the assistant commandant, the time for drill is very limited. In both cases the young officers on joining their regiments or corps are put through the entire course again from the goose step upwards. This should be rigorously forbidden, as nothing tends to dishearten the young officer so much as waste of time on antiquated methods and customs. The drill at the colleges ought to be sufficiently thorough that the young officer is fit to take his place at once in his regiment and command, if necessary, a company or troop.

Included in "drill" should be a complete course of gymnastics and physical training, the more necessary, as the cadets are taken at an age when the scientific development of their physique will make much difference to their matured constitutions. Also every officer should be taught to swim.

Riding is an essential qualification for an officer in every branch of the service; it should therefore be carefully taught and continually practised during the instructional course at Woolwich and Sandhurst. For one year of the course the cadet should go to riding school three times a week; for the last year he should go every day, being continually given different horses to ride, and the last term course should

consist almost entirely of out-door riding away from the 'manège.' In several respects I think our system of military riding might well be improved: we want a little more practical commonsense brought to bear on the instruction: the anatomical formation of the individual should be considered, as for some men the military seat with long stirrups and heels pressed down is an impossibility. After he has left the school, however, a man quickly adapts himself to the most natural position, which, in the case of riding, is almost invariably the best and firmest.

A very practical suggestion of the Committee is that which proposes that the cadets should spend a month or six weeks of each year in camp under their own officers. This camp should not, however, be allowed to deteriorate into a sort of annual picnic, but should be run on the most strict field service lines and should really be a camp of instruction, in which the cadets would have to do everything for themselves and so would learn the whole routine of camp life, in addition to the tactical work, which being on entirely new and unknown ground, would give fresh interest to their labours.

As regards the syllabus of instruction, the actual subjects would be very much the same as those at present taught, but the whole system must be made practical to the last degree. At Woolwich the course would include mathematics, as at present; artillery, including higher artillery, as at present, except that the gun drill should be carried out only with up-to-date weapons; if a man has the misfortune to be placed in charge of a fort armed with 64-pounders he must learn up the special drill for himself, but it is absurd to teach every officer obsolete drill. Fortification, which includes all field engineering should be thoroughly taught in regard to its principles and its connection with tactics and strategy, but the details of obsolete systems of permanent fortification should not have valuable time wasted on them and the present system of spending hours on drawing artistic plates should be suppressed: the elements of military administration and the elements of military law:

Tactics, military history and the elements of strategy are some of the most important subjects of the course and should be thoroughly studied in themselves and in their relations to such other.

Topography is also extremely important, but it should be clearly divided into two distinct parts, comprising survey work and the more accurate methods of permanent work, as distinguished from, the quicker and less accurate style of military sketching; here again valuable time should not be wasted in artistic effect. Tactical exercises and problems should continually be studied out of doors, working out the whole thing, from the original sketching of the ground, to the placing of the troops in position and the field engineering details: this kind of work, though little taught at our military schools, is extremely popular, as it has so much of interest in it and gives opportunities for the display of individuality.

Modern languages. I consider it most necessary that the practice of these should be kept up, as after two years at a military academy, if the cadet had not practised the language, he might almost as well have never learnt it; the instruction should be essentially practical and technical and the instructor should be a British officer carefully selected for his linguistic ability: all conversation in class should be carried on in the language and the studies should be entirely in military technical works, no other literature being permitted. Chemistry and physics and electricity would also be in the syllabus—short courses also of military hygiene and military account-keeping.

Besides the annual camp of instruction, each batch of cadets should spend a fortnight at Shoeburyness at gun practice with big guns.

At Sandhurst the syllabus would be identically similar, except that higher mathematics would be omitted; only the elementary principles of theoretical artillery would be taught, gun drill being confined to field and machine guns; and the higher training in survey would be omitted; no permanent fortification should be taught, but only the principles of land defence generally.

As we saw before, when discussing primary and secondary education, everything in the matter of instruction depends on the teachers, so we must take special care in selecting officers for the instruction of our cadets, as upon them depends very largely the standard of training of our officers and from that, the efficiency of our army for war. It will not do to take any man, who may submit his name merely to get an easy billet, as appears to be the case at present, but we must offer sufficient inducements to attract really good men and must take care that only the best men are chosen. The merits of an instructor will quickly be known by the results and, if these are not of a high class, he should be returned to other employment.

Also we should insist on the very highest qualifications for examiners, and these should be changed as seldom as possible, in order that the element of chance in an examination may be reduced to a minimum.

It is quite possible that a man might pass into Woolwich or Sandhurst by good fortune in the examinations, or by "cramming," who was either through incapacity or laziness not fit to be an officer, and, in order to prevent a man of this description from obtaining a commission, every cadet should have to obtain a qualifying minimum of at least 60 per cent. in the purely military subjects and 50 per cent. on the total course: also his fitness for military service should be reported on by the two senior officers in his company and the head of the college.

We have now arrived at the point of the further instruction of the young officer and we are at once brought to a stand by the somewhat startling evidence given before the Military Education Committee that "keenness is out of fashion," "it is not the correct form,"

and "the idea is to do as little as they possibly can." Perhaps this state of things may, to a small extent, be accounted for by the fact that the young officer (to whom these statements particularly allude), having just passed all his examinations and obtained the summit of his desires for the time being, feels that he is entitled to a little relaxation. But to what extent are these statements true, and if they are true, what is the reason for this lack of zeal? Is the young officer unsuited to the profession of arms? Unhesitatingly I say "no"; he comes of the best material in the world, of which officers are made, for British gentlemen are natural born soldiers and leaders of men and the officer class is almost a hereditary caste amongst British gentry. Is it then because his desire is to obtain a modest income with as little to do for it as possible? Certainly not; no man would go into the army for greed of gold, as it is quite one of the worst paid professions and with few, if any, rich plums to look forward to: further the British officer in his ever-restless desire for the hardships of service, for travel and sport, at once gives the lie to those who say he is lazy and indolent.

To what then must we attribute his lack of keenness? To two things—the lack of facilities to study his profession and, still more, the lack of inducement.

When the young officer joins his regiment in England he probably finds a skeleton corps, located in the neighbourhood of a town, where there is no ground except the barrack square for manœuvring on; the regiment is very likely run on the old hide-bound "parade" and "spit and polish" system by the colonel and adjutant in combination, whilst the rest of the officers are ornamental dummies for drill, and useful only for "telling off" and paying their men, or for other similar routine duties. The young officer knows too that, whatever happens, be he keen as he may, or be he slack, he will not receive his promotion one day earlier or one day later. Is it to be wondered at then that he gets sickened with the deadly routine, the monotony of barrack life, the apparent aimlessness of his existence and the impossibility of improving himself in his profession; and that he wanders away to whatever more congenial pursuits may offer? The fault is not the young officer's: give him the opportunities and give him inducements and see how splendidly he will make use of them. Look at the deeds of young officers in East and West and South Africa and on the frontiers of India. The fault for lack of keenness is the fault of those who administer the army, who give no facilities for training and who cause an utter stagnation of zeal through refusing to acknowledge merit for promotion. The British public abuses the British officer for lack of keenness, but I would ask in what line of life, where the pay is £90 a year and expenses are more, is there likely to be keenness, when merit has no effect in obtaining advancement? It is marvellous that there should be as much keenness as there is. As a matter of fact, the young officer, immediately he gets his chance of service with its possibilities of distinction, becomes as keen as one could possibly wish, but alas!

by that time, perhaps, golden opportunities have been lost and, instead of being a skilled artificer in his profession, he is little better than an amateur and has all his trade to learn.

If we wish to improve our army and to get the very best we can out of our officers, and, let us again repeat, the whole discipline, training and efficiency of the army depends entirely on the high standard of the officers, then we must make the inducements sufficient.

There is one way in which this can be done at once, and that is by granting promotion by merit. Such a proposal may be considered utopian, and possibly the suggestion even of so radical a remedy may excite ridicule, but I maintain that this is the only method by which the best results can be obtained.

In what business or trade are men promoted to important positions merely owing to their seniority and not to their fitness? In every other line of life, whether political, social, professional, or commercial, the selection for promotion goes to the fittest and it is only in the two military branches of the public service, on which the whole safety and welfare of the empire depends, the navy and army, that seniority alone rules the roster and that the indolent receive parity of promotion with the zealous. Could anything be more disastrous? The "Times" in a leader of the 12th June 1902 said "If the War Office existed for the express purpose of destroying zeal, of killing enthusiasm, of promoting idleness and ignorance and of fostering hopeless mediocrity, it would be one of the most efficient organizations that ever existed. There is no inducement to work, because the promotion of indolent officers is as rapid as that of their more industrious companions and may be more rapid." It can readily be realized what a paralyzing influence on all keenness in his profession such a system must have on the officer.

He may be smart, clever, diligent and ambitious, but the lazy dullard above him, who just manages to scrape through the promotion tests, must advance step by step above him. Even if he does manage to work some influence and gets away from his regiment to field service, where he distinguishes himself and perhaps gains brevet rank, still he remains junior in his regiment to the dullard and will receive his permanent step after him. Lack of inducement to work and the deadly effect of promotion by seniority are the forces that "destroy the zeal" and "kill the enthusiasm" of our officers. Our administrators should remember Mill's adage that a "state that dwarfs its men will find that with small men no great things are possible," and should strive to cherish the keenness and ambition of officers by the judicious use of promotion by merit. Then we should see how different would be the eagerness of the young officer to perfect himself in his profession, for he would have a definite aim in view, and that keen sense of rivalry and emulation, which is implanted deep in the British breast, would be brought into play. Instead of the apathy engendered by the unwritten military ordinance "If thou remainest in thy regiment thou shall not get on," we should

find our regimental officers vitalized and braced by the knowledge that merit will receive its reward.

The question then that has to be, considered is, how do we propose to arrange for selection? We are aware how much outside influence has been brought to bear on the disposal of staff appointments and of the higher appointments of the army. Few, indeed, are the successful ones, who have not been assisted by one or other of the various extraneous 'aids' to promotion.

We cannot hope to escape altogether from the effects of human frailty and, doubtless, there would be always cases of injustice; but if all reports and recommendations were made openly and not in an under-hand manner, as at present, then we might trust that the weakness would be reduced to a minimum by exposure to the bright light of day.

My suggestion is that all 'confidential' reports, those most hated and un-English documents, should be done away with and that all reports should be made openly and publicly, so that the officers concerned, may know exactly how they stand. Moreover, as every thing would depend on the accuracy of these reports for the future efficiency of the army, it should clearly be made known to all that senior officers would be held personally responsible for the reports they make and would be judged by results: in pronounced cases of unjustifiable remarks or recommendations, they would be liable to removal from their appointments.

Further, as these reports would become of such great importance to each individual, it would not be sufficient to have one officer's opinion and, therefore, in the case of regimental officers, separate reports would be made by the three senior officers, except that an officer should only be reported on by his seniors. These three officers should state their opinion of the order in which they think the officers under them should be promoted. In the case of the colonel commanding and second in command of a regiment, who, from their position, would naturally be men that had been well recommended, the senior staff officers would report.

In all cases the general would attach his opinion and his recommendations would equally be made public to the officers of the corps concerned. All promotion should be made entirely according to these reports. In corps or departments the reports should be similarly made out for officers in the command or districts.

The reports should give :—

- I.—The officer's qualities as a regimental officer and an instructor.
- II.—His capacity for command and influence with his men.
- III.—His force of character, energy, will and personality.
- IV.—His judgment, tact, grasp of a situation and initiative.

- V.—His professional zeal and industry.
- VI.—His vigour, health and endurance.
- VII.—Knowledge of modern languages.
- VIII.—Any military certificates and distinctions.
- IX.—Riding.

The difficulty in bringing in such a drastic remedy at present is that there are a certain number of senior officers, who have been aided by a favouring fortune to posts for which they are hardly fitted and whose recommendations could not be implicitly relied on. In this connection we may quote the memorandum of William I when crown prince (Appendix XVIII to the Military Education Report):—

“All instructions to superior officers as to how they are to report on the officers under them, for the purpose of deciding on their fitness for higher positions, will be entirely insufficient, if the superior officers do not to a remarkable degree give their whole attention to the subject, and by their opinions give the impression that their judgment can safely be relied on. It is therefore of the first importance that the positions from regimental commander (inclusive) and upwards should only be occupied by officers qualified to hold them in every respect. * * *

If many men remain in high position for which they are not completely qualified, they indisputably constitute a difficulty in the question of the promotion of junior officers, as they are incapable of recognizing or appreciating talent. Such men will naturally consider any one on their own level of instruction qualified for promotion, and under such circumstances we can never attain our object, namely of pushing forward only really suitable men, for those in a position to judge are not capable of really appreciating.”

The difficulty was evidently keenly noted by the crown prince; all that we can trust is that the consequences of making unseemly reports may make those officers careful and deter them from inaccuracies. These remarks may seem uncalled for, but I venture to think nearly every officer of any experience can call to mind instances of officers being recommended for staff billets, apparently with the main object of getting rid of them from the regiment. I knew two staff officers who were noted for being deficient in tact and having ungovernable tempers and yet these men must have been certified as fitted for staff employ: also, many of us can give examples of men sent on service in appointments for which they were unfitted.

Having arranged that the young officer has a sufficient inducement to work, we must see that he has the facilities to do that work to the best advantage.

In the first place it is recognized that the company is the tactical unit, and consequently the captain must be held responsible for the entire training and efficiency of his company. The old “battalion”

system, under which the colonel and the adjutant "ran the show" and the rest loafed, is obsolete—

"Tempora mutantur et nos mutamur in illis."

Now-a-days it must be insisted on in every battalion that the captains shall be responsible for the drill, discipline and welfare of their companies. It is equally necessary that the subalterns from the very outset shall be placed in positions of responsibility and that their self-dependence shall be fostered. Above everything we must remove those hide-bound disastrous rules by which the young officer gets into the rigid regimental groove, in which he learns never to do anything for himself, but only to do what he is told. We must endeavour to train his individuality and initiative, so that, in whatever case he may be, he may never be taken at a disadvantage. If they are taught to think and act for themselves, they will quickly, out of sheer self-respect, learn their work and will take good care not to display ignorance before their non-commissioned officers and men. The captain then should see that his subalterns take charge of their respective half companies and are thoroughly versed in all their duties. He should continually give them tactical problems to solve in order to practise them in command, in the grasp of a situation and in the solution of problems. These schemes should include reconnaissance, sketching, field engineering, fire effect, value of cover and so on. They should be particularly adapted to teach the young officers responsibility, self-reliance and initiative.

In this country the battalions are always full, but at home, what with skeleton battalions and the enormous proportion of men on guards, fatigue duties, clerical posts and other such jobs, it is with the utmost difficulty that the young officer finds any men to drill, and when he does find them, he is hampered for ground to practice his tactical exercises on. The authorities at home should so regulate the numbers that a battalion should never have less than 600 men effective for duty with it, and in the same way a cavalry regiment should never have less than 400 effective horses. Again fatigues should be reduced to the utmost, and the senseless custom of having many sentries and orderlies should be done away with and the number of non-effectives rigidly reduced.

Again as "fire* is everything and the rest of small account," every officer, whether of infantry or cavalry, within two years of getting his commission should have to pass the musketry course.

Another desideratum at every military station is a small library containing a well-selected supply of good technical books. The young officer when he joins is usually not blessed with too much money and cannot afford to buy good standard works nor can he usually obtain them from elsewhere; but if the books were available, he would certainly read them, as military literature is always popular. It is of the first importance that officers should have the opportunity

* Napoleon's maxim.

of studying the military history of the great commanders of the past and also of acquiring knowledge about all the latest developments of military science; all this is an essential part of military training but it is one that the Government have never recognized, as they have never made any effort to give officers any facilities for such reading.

One more method by which much valuable information can be communicated is by military societies, in which lectures, discussions, war games and strategical and tactical problems take place. It is quite the exception in military stations to have lectures, and yet in every garrison there are some talented officers, who would willingly give lectures, and there are many who would welcome any opportunity of having discussions on intricate and dubious points of military science; by such means all the different lights and ways of looking at a question are dealt with and much valuable knowledge obtained. The fault that there are no such societies must undoubtedly be laid to the door of senior officers, for though many youngsters would willingly take part and, in some cases perhaps, give lectures or bring up points for discussion, no young officer would voluntarily offer to lecture or give an account of his experience in the field, etc., for fear of being considered a prig! "Mais nous changerons tout ça," and when our new system for giving inducements to officers to excel in their profession and of giving promotion by selection comes into force, we shall find an eager desire on all hands to display aptitude and acquire knowledge in every manner possible.

It is highly important that we should have a number of officers proficient in foreign languages, and to this end we should give sufficient inducements for their study. An officer who passes the interpreter's examination in French, German, Italian, Spanish or Dutch should obtain a gratuity of £50 and an increase to his pay of one shilling a day for each language in which he is proficient, provided that, every third year he again passes the examination to show that he has maintained his knowledge.

For the interpreter's examination in Russian, Turkish and Arabic an officer should receive the present gratuity of £125, in addition to an increase in his daily pay of two shillings a day, subject to the same conditions.

The services of such officers should be utilised for the translation of foreign books and articles of interest in military matters.

For signalling, an officer who obtains an instructor's certificate should receive an addition to his daily pay of sixpence a day.

It would also perhaps be profitable, if general officers were given a small sum annually, to be expended as they think fit, on the training of officers: this might be utilized for purchase of interesting works, provision of war games, gratuities for lectures, or out-of-pocket expenses of staff rides, etc., the only proviso being that the expenditure should be for *bond fide* military instruction.

The next question is that of examinations, and we see that the Military Education Committee quote evidence that the garrison classes and promotion examinations are useless farces and should be abolished. Strange to say it seems to be the opinion of most commanding officers that the examination in A and B is useless, but whose fault is this? The fault of these senior officers, who are the examiners: the rules for the examination are all right, but it depends on the examiners, whether it is made a practical test or a sham. In regard to C, D and E, with all due deference to the commanding officers, I beg to differ. I know nothing of these things at home, but I consider the garrison classes in this country are well carried out and extremely instructive; they are thoroughly practical and so are the examinations. The only suggestion, which I would make with regard to the latter is that there should always be one officer on the board selected by the Director of Military Education in order that uniformity should be obtained and to obviate the possibility of a domineering faddist on the board enforcing his opinions to the detriment of the candidates. I consider these examinations are eminently practical and valuable and would recommend their retention, nor do I think there is any necessity for "surprise" or other examinations. The proposal to have a general examination throughout the service in one selected campaign of military history is eminently unpractical, though I suppose it suggested itself to the civilian mind from the supposed utility of Oxford and Cambridge local examinations and the like. Apart from the question of examiners for an army of perhaps ten or twelve thousand candidates (no simple matter!), could anything be better calculated to nauseate and disgust officers with their profession than to have nothing but one campaign dinned into their ears, as it would be, for months before the test.

If officers are properly reported on in regard to their diligence and qualifications and promotion is given by merit, the standard will be so raised as not to require the constant tests of examinations.

The staff of the British army has to be trained to very much more complex work than that of any foreign staff. They have their cut-and-dried problems of war, on a definite frontier, with one of their neighbouring powers: but we have to be prepared for any and every description of problem: our armies are at one time pressing through the frontier passes of India; at another struggling over the deserts of Africa; again they find themselves crushing out rebellion or fighting native bushmen in some distant colony; or they are contending with Chinese hordes, or with negro forces in the fever-stricken swamps of West Africa: at the same time we have to be preparing for that great day, which must come soon or late, when we shall have to match our strength against one of the mightiest military powers.

For all these various duties we require a very large staff and one trained to every possible description of service: it must be the most versatile, the most intelligent and the most highly trained of any modern army staff, because it has the most diversified work to perform.

Of what, then, does it actually consist? A small number of men who have been through the staff college and a large number from regiments, many of whom have no special aptitude or training for staff work. This does not seem an ideal arrangement, for if the staff college training is as good as it should be, then the greater part of our staff should be drawn from this source. However the system is the less dangerous for us, because with our continual wars, little and big, there is more chance of good officers coming to the front and being selected for staff employ. There can, I think, be little doubt that, however good an officer may be, he will be the better for a little scientific training in staff work, whilst even those who have been trained on service have probably gained their experience in a special line. It should, however, be pointed out that it is not a correct system to train staff officers on service, or we may find our troops suffering discomforts and mishaps from the ignorance of the staff. The staff officer should be trained to his work before he goes on service, then, when he goes into the field, he will be a useful officer and, by the experience gained, will become perfected in his duties. Many officers will probably agree with me that under our present system the best men have not necessarily been chosen for staff employ: this is hardly to be wondered at, as it depends upon his chances for distinction and his friends in high places, whether a man gets his opportunity of bringing himself to notice. Personally what I have often noticed is the "aloofness" of the ordinary staff officer. Considering that he has usually not had a training at the staff college, has only a superficial knowledge of the duties of the other arms, and has presumably not got all the technical knowledge that is desirable, it might be expected that the staff officer would take every available opportunity of acquainting himself with all the duties of his position; that he would try to gain all the knowledge he could of the working of the corps he has to deal with, and, with this object, would cultivate the closest intercourse with the officers of these corps; in fact that he would endeavour to train himself in staff duties.

Strange to say, in only a few cases do I remember noticing any keen desire of staff officers, during peace time, to interest themselves in their duties, beyond spending a certain time daily in office and turning out to general parades and field days; one man in particular, however, struck me with his keenness and he could tell one every little special feature of the training of the corps in his district: that man deserved to get on!

What then are our proposals for the improvement of the staff?

First, the staff college at home ought to be largely increased; instead of taking only 32 men a year it ought to train at least 75 per year, out of which 20 should be men of the Indian army: or, if the staff college cannot be increased to this extent then the Indian Government should found a college of their own. This has often been suggested before, but, though it would have some advantages, I would not recommend it, so long as the staff college at home could

be sufficiently expanded, as I should prefer the broader training from the point of view of Imperial needs, to the narrower local view that would certainly be taken in India: the more we look upon ourselves as one Imperial army and the more we are trained on those lines, the more homogeneous and efficient we shall be. Another reason for distrusting the foundation of an Indian staff college is the fear that the Indian Government would be unable to find the funds necessary to work it properly, and, unless it were really efficiently worked, it would be better to do without it.

Entrance to the staff college should be entirely ruled by competition, except that the number of royal artillery and royal engineer officers should be restricted to not more than 12 in one year, as it is not desirable that the staff should be flooded with particular corps.

Only officers of over four years' service, who have been specially recommended for their fitness for staff duties, should be eligible for admission, and the course should be for two years as at present.

It is stated in a pamphlet issued from the War Office entitled "The system of training of Staff Officers in Foreign Armies" that "At Camberley, garrison artillery, R.E., and army service corps officers are deprived of their corps pay; every officer has to keep a horse and a civilian servant and it is understood to be the case that an unmarried infantry captain requires £200 a year besides his pay, while at the college."

This is scandalous: that an officer, in order to improve himself in his profession, should be put to heavy expense, to such an extent that, if he is a poor man, he either cannot go through the course or he must run into debt and perhaps hamper himself for years.

We require that the best men we have should go through the staff college course and, in order to effect this, we must give them inducements to enter it, instead of deterring them by cutting their pay. Accordingly every student at the staff college should get an allowance of £150 a year in addition to the full pay he was drawing when he went there. If the Russian Government can afford to pay its officers double during the time that they are at their staff college, surely the British Government can give its officers an extra allowance. The extra cost would not be very great, but how great would be the advantage to the army!

On the other hand, as we are paying officers highly to attain a high standard of work, we should insist upon that high standard being attained: any officer who showed that he was not suited for staff employ, or was not diligent, should be sent back to his regiment at once: games should be discouraged; when men are going through a strict course of training it is not proper that they should spend whole days away from their work at cricket matches, race meetings or other sports: whilst, since a large amount of the instruction at the college would be out of doors, there could be no demand for games for the sake of health; the interesting style of work to be

done should be sufficient recreation in itself. The above remarks do not apply to games which only take an hour or two to play as they give a desirable diversion from the work. The only sport that should always be encouraged is hunting, for it is an education in itself and probably, to an intelligent man, a day with the hounds is as instructive as a tactical problem and a mounted reconnaissance thrown into one.

Our staff college is seriously undermanned, even at present, in its instructional staff and if the numbers of admissions were increased as we have proposed, the staff would have to be greatly augmented. There are now only seven professors and instructors for 64 students, whilst at Brussels there are 24 lecturers for 60 students and at the Hague 22 for 66. At Paris there are 25 for 190 students, at Berlin 42 for 400, at Vienna 32 for 300, and at St. Petersburg 29 for 314 students. The number of instructors of course does not increase proportionately to the number of students, but depends more on the subjects that have to be taught. For 150 students at the staff college, it would probably be necessary to increase the instructional staff to 24.

The subjects for instruction would be as at present, the greatest care being taken that principles should be clearly explained and inculcated: whilst all the practical work should be done out of doors and in different localities as far as possible. I have always understood that the course at Camberley is eminently practical and well taught. The results, however, are not always apparent in the knowledge by the graduates of true principles, for I was somewhat surprised some little while ago at hearing a staff college man, while lecturing, enunciate what seemed to me to be a radically wrong principle. He was discussing the question of the attack on an army that was fronting to its flank, and he maintained that the right spot to attack was the exposed flank, because he said that it was the most vulnerable and, if you tried to attack the refused flank, you ran the risk of being attacked yourself on the line of march; now this officer saw the tactical advantage of striking a weak flank, which would certainly cause loss and perhaps defeat to the enemy, but which at the best could only drive him back out of his position on to his line of retreat; he did not, however, recognise the strategical advantage of striking at the refused flank, whereby, if successful, he would be astride of the enemy's line of retreat and would insure the moral certainty of the destruction of his army. Had not the Germans struck at the French line of retreat from Metz in a similar manner, the Franco-German war might have been very much protracted.

Military history and strategy should be most carefully studied at the staff college, as this course is one of the only opportunities that an officer will have of being taught strategy scientifically, and yet a knowledge of strategy is an indispensable acquirement for those who aspire to high command. It is probably the most difficult of all the sciences connected with war, and it requires the most

accurate reasoning and most careful training, consequently the most should be made of the opportunity to study it, in order to promote an interest in the subject which will cause the officer to study it later by himself. All the greatest commanders have been diligent students of the art of strategy.

At the staff college the study of the administration and organization of an army with its supply and transport including the railway organization, will be part of the course.

It would be very desirable that officers should be taken away to different parts of the country to train them in mounted reconnaissance, staff duties, tactical problems, etc., on ground which they did not know, as little advantage can be gained from working over and over again on the same ground.

Even with our proposed increase to the number of staff college graduates the demand for staff officers would still exceed the supply and we should have the remainder of the appointments filled up with selected men from regiments: these men should be specially reported on in regard to their suitability for staff work and, before being appointed to billets, they should be attached for one month to each of the other branches of the service, and their fitness should also be certified to by the commanding officers of these units.

In all foreign armies when once a man has become a staff officer he remains always a staff officer, but this is not the method of the British service, nor is it desirable that it should be so.

We require a much larger staff for our various wars and expeditions, which are often going on in several places at once, than we can ordinarily maintain; we therefore want a reserve of staff officers and, with this object, we give as many officers as we can a staff training and then return them to their regiments for a time: this system is supposed also to have the advantage of keeping the staff in better touch with regiments and men.

The limit of duration of a staff appointment should not exceed four years, because in that time any man of intelligence should be able to learn thoroughly his staff duties. On completion of his four years on the staff, an officer should return to his regiment and, on no account, except for field service, should he be allowed to get another staff billet for three years. There probably would be many occasions when extensions would be applied for, that special officers might remain in special billets, but these ought invariably to be refused; no officer is indispensable, and by a judicious system of selection equally good officers would doubtless be forthcoming to fill the posts. By such a system all the best officers in the service who are fitted for staff employ would be trained to staff duties and we should have a substantial reserve to fall back upon: this would be invaluable for us when, as was the case in the Boer war, we have to put the "big battalions" into the field.

The only occasions when exception should be allowed to the four-year limit to staff employ is when officers might be specially selected for the great general staff, which we trust may ere long be appointed to prepare beforehand schemes of operations in all possible wars, that we may be called upon to wage.

This work would be highly strategical and should be kept absolutely secret, so that it would be very necessary that the best officers should be engaged upon it and that they should not be changed.

As a training for all staff officers, staff rides are excellent: they can be made very practical and instructive, if there is a clever and intelligent director, who can imagine checks and impose difficulties, and, when well run, they are very interesting and popular. It is a great improvement if the staff of two neighbouring districts are set to work against each other as opposing forces, thus giving the stimulus of rivalry.

We have decided above that the staff officer should have every opportunity given him of perfecting himself in his work, so he should constantly have instructive problems given him to keep him in practice: he might be sent out to make a reconnaissance and report of an enemy's position; to plan his attack on it and issue his orders for the same: or he might be directed to take up an imaginary defensive position and to state his arrangements for retreat, if necessary; or he might be given schemes to work out for the concentration of large bodies of troops by road and rail on a given position: or many other tactical problems of a similar description.

A great advantage of the proposed system of selection of the fittest would be that we should have much younger officers promoted to the higher appointments. One of the greatest objections to promotion by seniority is the great age of the generals appointed to command. It is out of the question that men of over 60 years of age should, as a rule, be sufficiently hale and energetic to carry on the arduous duties of command in a severe campaign, and it is quite the exception to find a man like Lord Roberts, who in energy and activity of mind is at least fifteen years ahead of his age. History tells us that all the great generals of the world have been comparatively young men; Julius Cæsar first defeated the troops of Mithridates when he was 26; Hannibal was only 29 when he marched over the Pyrenees and Alps into Italy and won the battle of Cannæ: Alexander the Great was only 33 when death closed his brilliant career; Turenne commanded the French forces in Germany at 32; Condé was only 22 when he won his first victory over the Spaniards at Rocroi; Marlborough was 54 when he fought the Battle of Blenheim: Wolfe was 33 when he fell on the Heights of Abraham at Quebec; Napoleon commanded the army of Italy at 27 and was only aged 44, when he finished his military career.

at Waterloo, and Wellington was the same age as Napoleon. Lord Roberts was 48 when he made his famous march and won the battle of Candahar.

We see in the Boer war how the old generals quickly gave place to younger ones and this has always been noticeable in every protracted war. Lord Kitchener is now only 53 years of age and all his successful subordinates, Archibald Hunter, Rundle, Baden-Powell, Plumer, Walter Kitchener, Smith-Dorrien, Bruce Hamilton, Ian Hamilton and Rimington are all comparatively young men; French is only 51 and Methuen, the oldest of all, is 58.

Further, by the system of promotion by merit throughout the whole of the service, the men who do rise to the highest ranks should be the best men in the army and we might therefore hope that we should have fewer misfortunes in the field through incompetent commanders. A corollary, which follows almost naturally from the above, is that any general who has shown incapacity in the field, should be at once removed from his command.

By this it is not intended to suggest that any general who suffers defeat should necessarily be branded as incompetent, for it is beyond the power of any man to command success, and many men have shown the finest qualities of a commander in adversity, as, for instance, did Soult in 1813 in the Pyrenees and his great master himself in 1814; but when a general has shown by his actions that he is ignorant of the principles of strategy and tactics, or that he is wanting in intelligence, 'savoir faire' and determination, then he is unfitted for command and should be removed. By retaining him in his command not only are we imperilling many valuable lives, but, what is worse, we are endangering national interests: further, apart from these highly important considerations, it is greatly to be deprecated that men should be placed in high positions who cannot command the respect of those serving under them. There is no such thing as a "peace" general, because the same qualities are required for a general in peace time as those which would make him pre-eminent in war.

There is one more subject which should be touched upon in an article on the training of officers, and that is what is commonly called the "cult of games," for it is an accusation that has frequently been brought against our officers that they spend their time on games to the detriment of their rightful work. There probably is a great deal of truth in the impeachment, but it is unfortunately a national characteristic, and so it is rather hard to lay all the blame on the officers—when the British public give up going in their tens of thousands to witness a "footer" match between Blackburn Rovers and Preston North end, or waste whole days watching a cricket match between Notts and Surrey, then perhaps they will have some right to complain of their officers indulging in sports.

As a matter of fact I think it will almost invariably be found that the officers who are good at games are amongst the best officers in the service. Games are excellent for the physical training of the man, as they develop his constitution; they cultivate also other qualities such as judgment, pluck, determination, presence of mind and the sense of fair play. It is all merely a matter of degree. As long as games are indulged in to a moderate amount they are entirely beneficial; but when the love of games becomes so predominant and all absorbing that men give up their whole lives to them and the majority of the population spend a vast amount of valuable time and money in watching professional players, who play solely for money and not for the love of sport, then this cult of games is a dangerous canker in the heart of the nation, teaching them to shirk honest work for vain play.

The officer who is a real sportsman, teaches his men to play intelligently and to enter into the spirit of their games, is an invaluable man in a regiment; but the man who, even when on leave, devotes his time to playing three-day cricket matches is not fit to be an officer in the service, for he is wasting his time.

Let us now summarise our deductions:—

1. We consider that lack of education amongst our officers had little effect in causing our reverses, as the Boers were probably less educated than our officers.
2. That the causes of our reverses were the novel conditions of war and the fact of our being pitted against a nation of hardy and mobile marksmen.
3. That the British officer quickly adapted himself to the changed conditions and has come very well out of the war.
4. That the Committee on the education and training of officers should have been composed mostly of military experts, not civilians.
5. That military education is the mental and physical development of a man with special regard to his efficiency in war.
6. That the primary education of a child is the most important part of his training.
7. That the result of the primary and secondary periods should be that the youth has a good 'potential' general education suited for any path of life, and that up to this stage no special technical knowledge should be taught.
8. That the classics are not a necessary part of a general education.
9. That all candidates for the army should pass a qualifying test for general knowledge, and that the candidates who pass highest in competition should have their choice of Woolwich or Sandhurst.

10. That the age of entrance to Woolwich and Sandhurst should not be materially raised.
11. That the universities are not a suitable recruiting ground for officers.
12. That colonial candidates are desirable.
13. That the course of instruction at military colleges should be purely practical and not academical: that it should be entirely technical instruction to promote efficiency for war.
14. That the course at Sandhurst should last two years and at Woolwich two and a half years.
15. That rigid discipline is most important in a military college.
16. That drill should be thoroughly taught in all its branches.
17. That the instructors should be most carefully selected.
18. That a comparatively high qualifying standard should be fixed for cadets.
19. That lack of inducement to work and lack of facilities are the causes of the defects in our officers.
20. That the one inducement required is promotion by merit in all ranks.
21. That 'confidential' reports should cease and that every officer should be reported on openly by three senior officers, or in case of senior regimental officers, by two senior officers.
22. That the young officer shall be given full facilities for acquiring a knowledge of his profession.
23. That small libraries should be formed in every military station.
24. That military societies can be made valuable aids to instruction.
25. That officers should be given rewards and increase of pay for proficiency in languages.
26. The general should be given a sum of money to expend annually on military instruction.
27. That the present examinations for promotion as carried out in India are good practical tests and should be retained.
28. That "surprise" examinations are unnecessary and a general military history examination, once a year, is impracticable.
29. That a numerous and highly trained staff is an imperative necessity for the British army.
30. That the number of admissions to the staff college should be raised to 75 a year and the number of professors and instructors raised to at least 24.

31. That an allowance of £ 150 per annum should be given to every student at the staff college to attract the best men.
32. That a high standard of work at the Staff College should be insisted upon and that games should be discouraged.
33. That military history and strategy should be studied at the staff college.
34. That staff officers, other than P. S. C., should be attached for one month to each of the other branches of the service before appointment.
35. That an officer serve on the staff for four years and that he must then return to regimental duty for three years, before again going on the staff.
36. That the only exception to this rule should be made in the case of officers for the great general staff.
37. That staff officers should be continually exercised in staff rides, technical problems and other staff duties.
38. That no general should be retained in command who has shown incapacity.

In conclusion I would point out that I have purposely not made much reference to foreign methods of education, because I strongly deprecate the tendency we have in all military matters to imitate German or French methods. We have, as a race, an individuality of our own, which I contend has proved itself superior to that of any other European nation and which is only equalled by the similar strong characteristics of the younger nations that are our offspring; we should therefore strive to develop that individuality in the ways best suited to our requirements and to the great Imperial interests that we have to consider. It is of course desirable and necessary that we should study foreign methods, so that we may note, or even perhaps, assimilate such principles as may suit our case; but we must recognize the fact that our character, our position and our interests are entirely different to theirs, and that we must decide for ourselves in all matters the path we shall pursue. To those who would wish for further information on the subject of the military education of foreign officers, I would suggest a reference to the appendices of Doctor Miller Maguire's lecture on "Military Education in England" in the August 1902 number of the R. U. S. I. Journal and to an article on Military Education by Major William Murray Black, corps of engineers, United States of America Army, in the journal for December 1902 of the Military Service Institution.

To the above articles, as also to articles entitled "Education and its Ancillary, the Military Problem," by Lieutenant-Colonel James Baker in the September Journal of the R.U.S.I., "Instruction of officers, non-commissioned officers and men" by Colonel Parsons, R.A., in the proceedings of the Royal Artillery Institution and the "Report of the Military Education Committee," the writer is indebted for much valuable information.

IV.

BY COLONEL F. M. RUNDALL, D.S.O., COMMANDING 1ST BATTALION,
4TH GURKHA RIFLES.

Motto:—"Initium est salutis notitia peccati."—Seneca, xxviii. 9.

When one enters upon the task of reviewing a system, and offering suggestions for its improvement, the first question which naturally presents itself to one's mind is, "In what form does necessity for improvement manifest itself?" Now a system is judged to be satisfactory or the reverse by its results. In what way, then, we may ask, are the results of our present system of military education and training unsatisfactory? But when we come to discuss the unsatisfactoriness of the results the necessity arises for enquiring into the causes which directly or indirectly produce these results. This again compels us not only to discuss the errors which exist in the system itself, but also the various adverse influences which, though they do not exactly form part of the system, yet by their very existence undermine or militate against its successful working. Then, further, it is of no use to merely mention these errors and evils; one must also propose remedial measures for either exterminating them or for keeping them under control.

Whenever, therefore, in this essay, I touch upon subjects which appear at first sight to be irrelevant to the main point at issue, I would ask my readers to consider carefully whether such subjects do not in reality treat of some error or evil the existence of which affects, directly or indirectly, the successful working of our present system. I venture to think that every one will admit that it is of no use, when reconstructing or repairing an edifice, to continue to use timbers the heart of which is being eaten out by white-ants. No amount of paint or veneer will save the building from eventual collapse, be it either reconstructed with these same timbers on a different plan, or simply repaired.

Now the errors and adverse influences which I shall mention, not only affect the success of our present system, but, if continued, they must hinder the satisfactory working of any other system that may be introduced. This is so apparent that most, if not all, are already recognised as evils by our highest military authorities, and efforts are being made in high quarters to eradicate them. I touch upon them because they are the cause of much of the failure about which so many complaints are being made.

I will, therefore, deal boldly, not only with the faults of our system itself, but with all adverse influences which directly or indirectly

affect its successful working; for, in the words of my motto, "*The first step towards amendment is the recognition of error.*"

But let no one think I am aiming the shafts of criticism at any one individual in particular. I am actuated by no personal *animus* whatsoever.

Now what are the complaints made regarding the results of our present system? In enumerating them The complaints made concerning the results of our system of education and training. I am merely repeating what every one has read in newspapers, and in magazine articles for a long time past, and what we have all heard in conversation when the topic has been discussed. They are not the conceptions and inventions of my own brain.

The faults complained of, and attributed to our system, may all, I think, be comprised under one or other of the following heads:—

- i.—General ignorance of their profession on the part of both senior and junior officers. This includes various items, such as ignorance of how to handle men in the field, ignorance of tactics and strategy, and of the art of war in general, &c., &c.
- ii.—Lack of education; that is, that officers are so ill-educated that many of them cannot write a letter in decent English. Further, that they are not well up in general subjects, such as English literature, history, modern languages, geography, &c., &c., and that they do not care to improve their minds by sound and useful reading, but are content with light novels, sporting books and papers, and unedifying and unprofessional literature.
- iii.—That there is a general want of keenness in professional matters; that we do not *train* our young officers to be keen, and that the average officer grows up caring for little else but amusement, and looking on the army, not as a profession, but as a means of obtaining amusement.
- iv.—That those to whom is entrusted the work of training and educating officers are too often incapable men, and unwisely selected.
- v.—That officers trained at the staff college turn out, in too many cases, to be purely theoretical men; and are unable to apply practically what they have learnt.

All the faults comprised under the above headings are commonly ascribed to our present system of military education and training or are declared to be intimately connected with it. These

are complaints preferred against us by, not only the general public so to speak, but by men of high standing and authority, who do not form their opinions hastily or utter them without mature consideration. If these complaints are well grounded then the edifice called "our system" is indeed in a tottering condition. Its walls are cracked; its roof leaks; it is in a parlous state.

But I am not prepared to admit that these faults are wholly
Our system not wholly to and entirely attributable to "our system." I want to know why the walls
blame. tem." I want to know why the walls
are cracked, why the roof leaks.

Now when an architect is called on to report upon an edifice that appears tottering, and to suggest repairs or improvements, he will not only examine the materials with which it has been constructed, but also the foundations on which it rests, nay, the very ground on which it has been built. Sandhurst, Woolwich, the staff college, garrison classes, and regimental training are all portions of a superstructure raised on certain foundations, and built of certain materials. If the foundations can be shown to be faulty, and the materials not up to our requirements, it is hardly fair to lay the entire blame on the edifice or on the workmen who have had to construct it on such foundations and with such materials, or the system on which they have built.

No doubt there are faults in our system, and with these I will presently deal; but I think we ought first to examine carefully and see if there are not reasons outside, and independent of that system, which contribute largely to its failure to meet present-day requirements.

Let us, therefore, commence by thoroughly examining the foundations and ground on which we have to build up our edifice of technical and professional education and training: the foundations and ground on which, if we do not first alter and improve them, we shall have to go on building with more or less unsatisfactory results,

Now what are the facts which stare us in the face? Many lads (but by no means all) come into the service, educated in a manner which renders them unsuitable material for our requirements. What is worse, they have not been taught how to learn, how to use their brains, how to reason out "why and wherefore;" the desire to learn is not in them; the power is not exactly non-existent, but it is dormant; they are not keen to acquire knowledge. Why? Because the right chord has never been touched; because the system of teaching at most primary and public schools is unsatisfactory, and the instructors are not the men we require. How can any system of subsequent military education and training prosper with such foundations, and such materials? But let us trace the normal career from the commencement, long before we ever entered the army.

Most of us go as small boys to some private school. Here we are taught arithmetic, geography, history, Latin, &c., &c., all necessary and good in their way. But how are we taught as a general rule? In a perfunctory manner. The boy who is quick at his work, and has the sharpest brains, gets patted on the back; but the boy who is slow at his work, and whose brain is slower in developing its powers, is pronounced stupid. If he asks to have things explained more clearly he is, not infrequently, called a fool, and troublesome, and is reported on accordingly. It does not seem to occur to most masters that the mere fact of their reporting on a boy as slow and backward is just the very reason why they should take more trouble to teach him. It does not occur to them that, when they continually, term after term, report on a boy as slow and backward, many a parent might naturally and reasonably remark, "If my son continues to remain slow and backward, it must be because the master himself is slow and backward in the art of teaching." Instead of teaching down to the intelligence of the stupidest by in his class, the average master is quite content so long as the quick and intelligent boys can understand his explanations. And yet by teaching in such a manner that the stupidest boy in his class can understand, a master could make sure that all the rest would comprehend.

But the average master does not do this because it is too much trouble, or because he cannot do so, for the simple reason that, like the majority of his kind, he is not a master of the difficult art of imparting instruction.

What is the result? The right chord in the boy's brain is not touched; he is not helped over the preparatory education and training. The results of inefficient preparatory education and training. culty of "how to learn"; lessons are not made interesting; quite the reverse; the desire to learn is neither kindled nor fostered; the boy learns by rote, and his brain is not carefully cultivated; it is merely smeared over with a confused mass of information, mentally undigested and intellectually indigestible, which one may liken to that kind of jam purchased by the poor in London and popularly known as "two-penny worth of all sorts."

A still further result is that the neglected boy stumbles along till he goes to a public school where he arrives knowing little, badly grounded, hating all books except story books, and unable eventually to do more than just scrape into Sandhurst or Woolwich, or through the militia, by the help of a crammer. Then, finally, he comes to us his senior officers, with the fully developed body and muscles of a man (when the medical board does its work properly), but with imperfectly developed, because insufficiently exercised, intellectual faculties. And, what is worse, he has no desire or keenness to learn anything more.

Hear what an Eton schoolmaster has to say on this subject:—

"It must be frankly admitted that the intellectual standard maintained at the English public schools is low and what is more serious, I do not see any evidence that it is tending to become higher" and again,—“we send out from our public schools year after year many boys who hate knowledge and think books dreary, who are perfectly self-satisfied and entirely ignorant, and what is worse, not ignorant in a wholesome and humble manner, but arrogantly and contemptuously ignorant—not only satisfied to be so, but thinking it ridiculous and almost unmanly that a young man should be anything else.”*

His critic in the *Nineteenth Century*, Sir Oliver Lodge, remarks on the above extract, “Have we not heard a similar indictment against the state of intelligence in the army? The two indictments are one and the same; the English school is responsible for both, and is obstructing the progress of the nation.”†

Of course I do not for one moment mean to imply all officers who come into the army are like this. I am but describing extreme cases, so as to accentuate my meaning. Still it is an incontrovertible fact that there are many officers who have been imperfectly grounded at school, and who are not keen to learn more in after life, either of the difficult study of the art of war, or of any other subjects of intellectual interest.

Now I unhesitatingly say that almost every one of such officers might have been made a very different man if he had been taken in hand the right way when a small boy. And I as unhesitatingly assert that the radical fault does not lie with the man as he is turned out, nor with our system of military education and training, but with those who had primarily the task of educating him and preparing him for the subsequent technical training we have to give him.

Now as regards public schools. I do not think I am exaggerating if I say that at a public school it is *The inefficient education and training at public schools.* *not* a common thing to find masters who interest themselves in the so-called stupid and backward boys; boys, that is, who have been badly grounded, and who have never been taught the art of “*how to learn.*” What does a public school master care if parents, in wrath at their sons’ failure to get on, remove them? What does he care whether a boy is untaught or only superficially taught? It does not affect his stipend or his regular and liberal holidays. It does not matter two pence to him or to the name of the public school. But it matters to Great Britain; it

* *The Schoolmaster; A Commentary upon the Aims and Methods of an Assistant-Master in a Public School.* By A. C. Benson, of Eton College. London: John Murray, 1902.

† *Nineteenth Century*, No. 310, December 1902.

causes His Majesty's army to be recruited with certain partially educated and ill trained lads who, from being brought up carelessly grow up carelessly ; who have been taught in such a way that they looked on lessons as a bore, now regard garrison classes, professional studies, regimental duties as bores. How can we expect our staff college professors, our garrison class instructors, our commanding officers, to work miracles and construct a sound and satisfactory edifice on such foundations, and with such materials ?

I am not including in my condemnation *all* schools, and *all* masters. There are, I know, some few preparatory schools where an honest effort is made to bring on, educate, draw out, nourish, the dormant faculties of boys. And there are a few masters at public schools who make a like effort. But the generality of schools and masters do not.

Is any useful object to be gained by concealing this fact because it may be unpalatable to some? Useful, I mean, to England. I think not. *The first step towards amendment is the recognition of error.*

Now what is the remedy for the abovementioned evil? It lies in one word, "*thoroughness.*" Thorough
 The remedy for imperfect primary education. primary education ; thorough advanced education.

How is this thoroughness to be obtained? This is a problem which leading and experienced professors of education should set themselves to solve. It is hardly a soldier's task, and yet I would venture to offer them a soldier's solution. Is not this the solution ; this is the thing that they should do? Should they not set before them as their motto, "Loyalty to England ;" and loyally insist on having in their schools as masters and teachers of future soldiers, not any one who can write B. A. or M. A. after his name ; not merely men who have won honors at the university ; but men who love teaching ; who can and will take patient trouble with lads whose intellectual powers are slower in developing than those of others ; who will give the solid thorough grounding that is necessary before advanced or technical education can be successfully attempted? With "loyalty to England" as their motto let then our leading educational professors, when selecting masters to instruct boys going in for the army, be guided by this thought :—" *which master will work best to meet England's requirements?*"

And yet the question arises, how are they to do this when they have numbers of other boys to think of who purpose entering other professions? The difficulty of answering this is so great that I believe there is but one solution of it. All would-be reformers know how extremely difficult it is to alter any existing state of affairs. To reform our preparatory and public schools, so as to meet army requirements, is too herculean a task to accomplish at a moment's notice, and, to my thinking, it is not necessary to attempt it. There

is another and an easier method by means of which we can solve the difficulty, and obtain better foundations on which to build up our system of professional training and education, and more satisfactory materials with which to work.

England's naval officers have long been trained from childhood at a special school. I refer of course to the *Britannia*. Why should not a special school on somewhat similar lines be started for training boys for the army? I know a public school training is considered most fitting, some would say essential, for a boy who is going into the army. I know the well-worn saying about battles being won on the playgrounds of Eton. But are not these same public school-boys the very ones whom we often find are not up to our requirements? Is it not because of their faulty education at public schools that crammers exist? that our subsequent system of military education and training is pronounced faulty? Believe me, neither the boys themselves nor our system are wholly to blame. The fault in a far greater measure lies, as I have tried to show, with our public and preparatory schools. Are our naval officers any the worse for not having had a public school training? No; a thousand times No!

I believe the *Britannia* itself is to be abolished, but the system of training lads for the navy remains, as far as my argument is concerned, practically the same, whether it be carried out on shore or on an old ship.

Let us have a special army training school on somewhat similar lines to the *Britannia*, and it will itself soon possess all the advantages of a public school, and will become one to all intents and purposes. Only, at such a school the boys would live and grow up in an atmosphere essentially military, just as on the *Britannia* the boys live and grow up in an atmosphere essentially naval.

I would have the whole atmosphere of this special army school military, even to classifying the boys by companies instead of by houses and by making them wear uniform as is done on the *Britannia*. Strict military discipline should prevail, and the life at the school should be a foretaste of a military career.

The studies should be such as tended towards the proper preparation of the boy's minds for the profession for which they are destined; such as will make them hereafter keen intelligent officers.

Of course none but boys intended for the army would be allowed to enter the school.

It may be urged that my proposal is equally applicable to the cases of boys intended for the law or the church. Very possibly, but I am not pleading the cause of the church or the law.

Objections answered.

Does my proposal appear too radical? Why should it? Does any one think that what has succeeded for the navy will not succeed equally well for the army? Why should a public school training be more essential for an army officer than for a naval officer? And if it is, in what respect will a special army school with its hundreds of boys differ from a public school? Will not cricket and football and all manly games be played equally zealously and well at a special army school as at a public school?

Some may urge that there will be no halo of old traditions surrounding such a school, as there is at Eton and Winchester, etc. My answer is that the boys will have the old tradition of the army to think of, traditions enough to satisfy anyone not only while preparing for the army but for the long years they spend in it after they have left the school.

Again, it may be objected that it will be necessary for parents and boys to make up their minds so early about choosing the army as a profession. If it is made necessary for them to do so they will just have to do it. It is necessary for them to make up their minds quickly when selecting the navy as a profession. If they can do so in the case of the navy, why not in the case of the army?

But to proceed with the details connected with the school I am proposing and advocating as a remedy for the present unsatisfactory foundation and materials provided for us by public and primary schools.

I would suggest that boys should enter the school at the age of twelve; at any rate not over thirteen; and should remain there till they are, say, seventeen. Then let them be examined as to their fitness to enter Sandhurst or Woolwich.

The entrance examination to the school might be competitive, as in the case of the navy.

Curriculum. While at the special army school they should be taught the following subjects:—

English grammar, literature, prose and verse. (How many of our officers know and read their Shakespeares, Miltons, etc.?) A good knowledge of their own language and its literature is, I think, essential.

English composition.

English history and geography.

One modern language thoroughly well.

Proficiency in colloquial to be a *sine quâ non*.

Arithmetic, algebra and euclid.

Higher mathematics.

Riding, gymnastics, and drill.

Elementary fortification.

Military history.

Freehand drawing.

Geometrical drawing.

Of course certain of these subjects would only be taught in the higher classes. Also various optional subjects might be taken up, such as a second modern language ; or general history of nations ; natural history ; geology ; science, etc. But I think it would be found that no lad could take up more than one, or at the most two optional subjects in addition to his obligatory studies. Still it is well to allow a lad some scope to follow some natural bent.

Extra subjects.

Perhaps some one may say, "But are Latin and Greek to be abandoned of unnecessary subjects." It is no pleasure to me, a lover of classics, to answer, "on the whole, yes." Classics are doubtless a most useful subject in the work of education ; but so are many other subjects. And of these other subjects so many are essentials for a proper grounding for the army. We must perforce consider the essentials first. Classics are refining to the mind and enlarge it (in a certain direction) and, therefore, helpful in many ways. So is a study of astronomy, of ancient Egypt, of geology, of the ancient world and its monuments and inscriptions. But we cannot go in for such subjects. We must teach what is requisite to prepare the mind for the reception of the technical and professional knowledge to be imparted later on. We must think what it is we want and work up to it. We do not require classical knowledge so much as we need a knowledge of certain other subjects, so we must let classics go.

Then as regards the instructors at the special army school.

Instructors.

These should be specially selected at the outset, and always, as being men who really understand the art of teaching ; and not chosen merely because they have taken prizes and high degrees at the university. The fact that a man has won scholarships and prizes, or taken high degrees at the university, is no proof that he can impart knowledge ; it is merely a sign that he can imbibe it. I would therefore lay great stress on the necessity for selecting instructors who are really able to impart knowledge in a way that all can comprehend.

Some of the subjects I have suggested would be best taught by specially selected army officers.

Discipline.

The discipline of the school should be of the strictest and of military nature.

The head of the school or principal should be, not an erudite university don, but a smart army officer with plenty of tact but a strong will. A man who will maintain rigid discipline, and who, when a

Choice of a principal.

master reports on a boy as stupid or backward, will make that master clearly understand that he will be held directly responsible that the boy in question is specially, and patiently attended to until he is no longer backward.

Occasionally, when opportunities offer themselves, as many of the boys as possible should be taken Attendance at military manoeuvres. to witness military field days or manoeuvres.

Keeness to be insisted on. Again, keenness in their work, and in military matters should be insisted on.

The hours for study might easily be arranged so as to give the boys never more than one hour's brain work at a time. Gymnastics, riding, drill or games could easily be interpolated between each hour of brain work. And another point on which I should insist would be that the classes should be small ones, so as to ensure to each boy the personal attention of the instructor.

Now, the plan I have thus suggested is in substance the system Review of the foregoing suggestion. on which for years our naval officers have been prepared for subsequent professional education and training. It has answered; answered at any rate better than our present methods have. I can see no reason why it should not answer equally well for the army.

Think what material we should obtain to build with; what foundations on which to erect any system of military education and training that might be adopted. We should get young men with bodies and minds equally well developed, and in a condition to be readily further developed; young men already accustomed to strict military discipline, and brought up from boyhood in a military atmosphere, and to whom keenness would have become almost second nature; young men with a sound knowledge of their own language and of some useful foreign language, of military history, and of all sorts of useful subjects. With foundations and materials such as these our commanding officers, and staff college and garrison instructors could work successfully.

And now let us review our system of working up the materials Review of our system of military training and education at Woolwich and Sandhurst. at present furnished us by public and other schools. Let us take Woolwich and Sandhurst first as these institutions are at present really the first stage of military education through which the embryo officer passes.

I am sure that most, if not all, the faults complained of in our Woolwich and Sandhurst training would cease to exist if the young men at these academies all came from such a special army school as I have attempted to describe.

Woolwich and Sandhurst are at present filled year by year, by

The material at present sent to Woolwich and Sandhurst. pretty nearly any one, and every one who can pass high enough in a competitive examination by the help of a crammer, or by his own brains. These young men have had no special preparation or training for a military life; they have undergone no special military discipline. On passing into Woolwich or Sandhurst they land in a *terra incognita*, and are set to learn subjects of which most of them are absolutely ignorant. Many of them are lawless young fellows who have grown independent, and perhaps vicious, owing to the free and unrestrained life of license which they have led at crammer's establishments. Some of them—mind I do not say all—have no intention of ever again doing more work than they can possibly help. That dreaded bugbear, the entrance competitive examination, is over and past; and they know they need only work just sufficiently hard to scrape out as full-blown officers.

The above remarks refer particularly to Sandhurst. The case of those who pass into Woolwich is quite different. Their *curriculum*, treating as it does of more scientific subjects, compels them to work hard and use their brains. They know that their life in the royal engineers and artillery will be one of hard work, and one that will compel them to work scientifically and intellectually. At Sandhurst, on the other hand, the subjects studied are neither so hard nor so scientific. Moreover, a great number of the young men there have ample private means and have not therefore the incentive to work hard either during their time at the college or afterwards. Is it any wonder, therefore, if Sandhurst fails at times to send us officers who are keen on their profession, or whom we can train to the required efficiency? Sandhurst in itself is a good institution, but it is not provided with properly prepared material, and therefore the professors and instructors there are not wholly to blame if they fail sometimes to mould this ill prepared material into what England requires. The *curriculum* at the college is on the whole good, though I will presently offer a suggestion or two for improving it.

The most prominent faults in the system which obtains at Woolwich and Sandhurst are:—The discipline is not strict enough; there is not sufficient stress laid on keenness in professional matters; the occasional employment of inexperienced or unsuitable instructors; the weekly leave to town from Saturday to Sunday night. This last is pernicious; it unsettles the young students once a week; it makes them regard as irksome the comparative restraint of the other five days in the week, and conduces to various evils.

I believe that Sandhurst and Woolwich would do their work well and satisfactorily enough if they were filled only with young men who had had a proper previous training and education at a special army school such as I have suggested.

Education and training of lads from the special army school at Woolwich and Sandhurst.

When the lads pass into Sandhurst or Woolwich from such a school, they should remain at these academies, I think, for never less than two years. This would bring them into the army at the age of nineteen.

At the expiration of the two-years' course at Woolwich or Sandhurst they would, as now, pass a final examination to test their fitness for commissions. During their two-years' course I would urge that they should be subjected to stricter discipline than at present obtains, and that all semblance of luxuriousness be repressed.

It is an undoubted and indisputable fact that many of the young men who now go to these academies resent the feeling that they are practically under something like school *régime* once more. Many of them have left school some time, and have experienced the joys of freedom at a crammer's. It is hard for them to bend their necks under the yoke once more, and occasionally they burst out into unbridled rowdiness, and set discipline at defiance.

Now, if admission to Woolwich and Sandhurst were restricted wholly and entirely to those who have been carefully and specially trained in the military discipline of a special army school—if they pass straight from that discipline to the discipline of Sandhurst and Woolwich, they would not feel it irksome. They would not pass through the intermediate inferno of an unrestrained and perhaps vicious life of freedom at a crammer's establishment. The necessity for crammers would cease to exist.

And now as regards the *curriculum* at Woolwich and Sandhurst, Curriculum at Woolwich and Sandhurst. I think that it might remain pretty much as it is at present. But I should like to see added to it more frequent attendance at field days in the neighbourhood, always followed up by a clear explanatory lecture on what was done, what ought not to have been done, and what should have been done. Furthermore, I should make English literature, English composition and modern languages occupy a fairly prominent place in the course of subjects studied.

Keeness in the profession should also not only be encouraged Professional keenness impera- in every way, but should be considered tive. a *sine qua non* when reporting on a young student's fitness to receive a commission.

Any one showing a lack of keeness should, after due warning, be turned out if he does not amend. Let him follow his bent and become a civilian; he is not material with which we can work successfully.

Omitting for the present the case of men who obtain their commissions from the ranks, we come next to that of officers who go neither to Sandhurst nor Woolwich, but gain their entry into the regular

army through the militia. Numbers of these young men turn out excellent officers, but still some of them bear the marks of inefficient and insufficient education and training received at primary and public schools.

A great deal depends also upon what militia regiment they have served in. All militia regiments are by no means the same as regards the manner in which the young men are instructed and trained.

The system of admitting militia officers has its advantages, and its continuance is advisable. But as we should in this manner obtain officers who had not had the advantage of a sound preparatory early training at the special army school, great care and discrimination would be necessary before admitting them into the regular army.

As mere certificates regarding keenness and general qualifications are often apt to be biassed, some further safeguard would be necessary, such as a competitive examination in professional subjects, and a rule that all officers coming in from the militia should be probationers for two years. During these two years any display of lack of professional keenness, or any signs which showed that the probationers were not likely to turn out efficient officers, should be noted and reported minutely, and the probationers' services dispensed with. We have a similar rule in the case of young officers who wish to enter the Indian army, so there is no reason why it should not be introduced in the case of militia officers.

At present a few officers come to us from the universities.

University candidates.

While advocating that it should be a rule to admit no one to the army who has not been through the special army school, I acknowledge that it might be hard and not altogether advisable to close all other avenues of entrance to the army. And therefore I think it might be well to allow a small percentage of commissions to militia officers and university men under the age of, say, twenty-one. I would make the same suggestions regarding a probationary period for university men that I offered in my paragraph on militia officers. And, further, I think it would be advisable that university men, having not even had a militia training, should pass an examination in professional subjects before being allowed to become probationers.

As a matter of fact it is only when we have a big war on hand that there is any need for an extra supply of officers. The supply is always in excess of the demand ; and I would deprecate the opening of too many avenues of entrance to the army. It would be prejudicial to the special army school. Parents would not feel it incumbent on them to make up their minds early, and would say, "There are other ways of getting my son into the army if I want to. I will send him to a public school and the university, and not to the army school." This would stultify our whole aim and object in having such a school.

We must also consider the question of training men who obtain direct commissions from the ranks. The necessity for giving such commissions, the justice and the wisdom of it are too self-evident to require discussion. Such men as obtain commissions in this way have been through a stern ordeal and training, and it only remains for us to give them a technical education in such subjects as are taught at garrison classes.

Quite recently instruction classes have been instituted for young officers who have had no previous military education. The order for such classes was framed to meet the cases of young men who have lately been given commissions direct without passing any technical examination. It would be quite easy to keep up these instruction classes for the sake of those who gain their commissions from the ranks.

We have now to review our system of regimental training.

Review of our system of regimental training.

At present we expect the commanding officer, and senior officers of the regiment to see that the younger ones are properly instructed in the various branches of work in which a regimental officer is mostly engaged. Paragraphs 676 to 679 and 1059 of the King's Regulations are very explicit on the subject of the regimental training and education of officers. The officer commanding a regiment is supposed to see that young officers prepare themselves for garrison classes ; he is expected to examine them occasionally, and either deliver lectures himself or detail some one else to do so.

Now if the young officers are not keen on the study of their profession, and if a public school failed to prepare them properly, it is not surprising if a commanding officer often fails. He is not a schoolmaster by trade as was the university M. A. Moreover he has passed through in his time the same inefficient preparatory training as his young officers. Some few commanding or senior officers may have the gift of teaching, but one cannot take it for granted that all have ; or that all of them are able to build a fair edifice with the materials at present too often supplied to them.

It is remarkable, too, what a lack of keenness is shown by, not only juniors, but by seniors also. Keenness, I mean, in training juniors, and keenness in learning more about the art of their profession, and its theory as well as practice.

An evil which militates against our system of training regimental officers.

This lack of keenness is an evil which militates against the success of our present system of training regimental officers. It is directly connected with it, and exercises a baneful influence upon our system. It is necessary therefore to refer to it.

As regards lack of keenness in training juniors. We should gain

Lack of keenness in training nothing by attempting to disguise the fact
and educating junior officers. that commanding officers and senior officers too often do not take sufficient interest in training young officers on first joining. They are in too many cases left to learn their work as best they can. No pains are taken to make the training interesting. So long as the juniors can scrape through the general's inspection without making themselves conspicuous by some flagrant exhibition of in efficiency or ignorance, no one cares whether they are superficially trained or otherwise. So long as a youngster turns out neatly dressed in uniform or mufti, and has a smart appearance, and performs his duties fairly well, no more is asked. It is a matter of indifference if his mind is a perfect blank as regards the study of his profession, and if he is incapable of conversing on any other topic besides horses, dogs, games and sport of all kinds.

If he plays polo, cricket, or other games well, and is a sportsman, all this forms a large portion of what is comprised in the expression "a smart officer," or "a good sort." Too often no one cares whether he makes his profession his first aim and object; whether he studies it; whether he is being trained or training himself earnestly and thoroughly for the great life and death game of war; or whether he is capable of training others.

Matters, however, are not so bad in respect of general ignorance as they used to be in years long past, when an officer hearing some one remark at mess that the great Macaulay was dead, exclaimed, "Macaulay, Macaulay; what regiment did he belong to?" Still we do require more keenness in training our young officers in professional studies as well as practical work, and in encouraging them to cultivate their intellectual faculties generally.

Now, there is another evil which exists, and which, as long as it

Another evil militating against continues to exist, must render hopeless
and undermining our system. and impotent any and every system of military education and training. It is very often the cause of the evil I have just been discussing. I refer to the practice of 'ragging' those who show keenness in their profession, and of discountenancing keenness either actively or passively.

This evil, which saps the life out of our system, and stultifies our attempts at success, must be stamped out mercilessly. Those who encourage either silently or openly anything which discountenances keenness should be made to understand that they are acting disloyally to their king and country. The country pays them to be soldiers, and to train their juniors to be soldiers. If they will not do what their country pays them to do; if they want to fill England's army with, practically, civilians in uniform who know as little about the profession of arms as they themselves do, and care as little, why, let such men go. Let them clear out of a profession in which they take so little interest that they actually retard the work of perfecting

England's army. The country does not want them; we do not want them; we can get plenty of others to fill their places who will be real soldiers, keen and actively loyal. Let such men be turned out, and be shown no mercy.

This evil is recognised as such by our highest military authorities, and strenuous efforts are being made to eradicate it. But it was necessary to refer to it.

As regards suggestions for improving our present system of training regimental officers, I think the following would be not only feasible but beneficial.

Let every young officer learn practically the work of transport officer, quartermaster, and adjutant. They cannot all be adjutants and quartermasters, but they might be attached for six months at least to each of these regimental departments, and gain a thorough practical insight into the working of them.

These periods of six months should be six months of actual work. It would be useless to merely nominally attach an officer to, say, the adjutant, and then allow him to spend the time, or indeed any portion of it, on leave. There must be at least six months of actual steady work in each of these departments. The young officer, as soon as he is dismissed drill and musketry, should begin with transport work in all its branches, the care of transport animals, and saddlery and gear, the correspondence, returns, etc. If there are no opportunities of learning the work with his unit let him attend a transport class. After gaining a thorough insight into the working of this department, he might then go on to learn quartermaster's work, and finish up with six months' adjutant's work.

I do not mean that these courses should follow each other in unbroken succession, but merely that every young officer should be thoroughly taught the work of each of these regimental departments at some time or other during the first few years of his career.

In most regiments of the Indian army, all young officers pass through this sort of training, owing to the fact that there are so few officers in a regiment that the juniors are constantly officiating as transport officer, quartermaster, or adjutant. The result is that when they become commanding officers, or obtain staff appointments, they are well up in all branches of regimental work, understand regimental requirements, and are familiar with various kinds of office work, and with the regulations. They possess that great *desideratum* "practical experience." But in most British regiments young officers do not get these opportunities; and often, when they arrive at the position of senior officers they are almost, if not quite, ignorant of such matters.

Then I think a great improvement might be effected if general lectures and schemes followed officers laid greater stress on seeing for themselves that the work of instructing and educating officers regimentally in professional studies is not

perfunctorily carried out. I think it should be strenuously insisted on that once a fortnight some capable officer should be detailed to either lecture, or set some tactical problem to be worked out by, say, all under fifteen years' service. I take service and not rank as my limit because in some regiments promotion comes so quickly that officers become captains and even majors before they have had time to learn all they should.

Or, again, some simple scheme involving field fortifications, hays, entrenchments and so forth, might be set to be worked out on paper; or some battle in a campaign to be studied. Lectures should be followed by discussion, and the problems and schemes and the various solutions sent in should be talked over in the presence of both juniors and seniors. The faults or doubtful solutions should be pointed out, not disparagingly, but in a kindly and instructive manner. The juniors should be encouraged to ask questions on points they do not understand, and should not be thought prigs for so doing.

Of course all this means time, careful thought, and professional study. But why should a man think himself a smart soldier if he grudges time, thought, and study, or anything which may make him a more useful officer to his country, or a more intelligent man.

I am afraid that what has been so often laid to our charge is only too true; namely that, too often the individual officer seems to think that the army exists for him, and not he for the army; that the army exists for him as a means of pleasantly passing his life, and for gaining honors and rank. I fear that there are too many officers who do not grasp the fact that they exist as officers because the country needs an army; and that it has a right to expect them to give loyally, not only their lives, which they one and all cheerfully and often recklessly do, but also their time and thought.

I am aware that something like the above suggested scheme for training and educating regimental officers is already customary in many regiments, but I fear it is not carried out thoroughly enough.

Should the special army school ever come into existence, and be given full time to work and leaven our army, it will be far easier to manage successfully regimental training and instruction, because officers will have been trained more or less from childhood.

The next step in our system of military education and training is

Review of our garrison class the garrison class.
system.

It seems to me that, considering the material provided by our preparatory and public schools, our garrison class instructors, as a whole, are as successful as we can expect them to be. It is also necessary to remind fault-finders that our garrison class instructors have but a very short time allowed them in which to train and educate officers. But I will deal with this later on.

The idea of garrison classes is a good one. They give the young officers who attend them an opportunity of obtaining really

useful professional instruction at the hands of a man who makes such subjects his speciality. But there are certain faults in the system as it at present obtains, which I think can easily be rectified.

In the first place, are all our garrison class instructors invariably well chosen? Are they all experts in the art of imparting instruction? I myself can vouch for one instance of an incompetent instructor, but that was years ago. Still the fact of there once having been such an individual teaches us a lesson that the utmost care and circumspection are necessary when selecting officers for the post of garrison instructor.

In the next place I think the course of instruction is too curtailed as matters stand at present. It was curtailed because it was ordered that officers should, and it was hoped that they would, receive instruction in their regiments, or by private study, to such an extent that when they joined a garrison class, they would be pretty well acquainted with the subjects taught there.

Now I have already attempted to show that the present system of regimental training does not come up to our requirements. Therefore I say *as matters stand at present* the time allowed for a course of garrison class instruction is too curtailed. An immense amount has now to be crammed into too short a time. The candidates and their instructor are too much rushed, and "rushing" never pays in the long run. Moreover it is not fair on the instructor. The results of this squeezing of the course into so short a time is, that the garrison class instructors practically cram the candidates; they cannot help themselves; they must cram; and cramming is surely inadvisable.

There is another point in our garrison class system which demands careful consideration, and which I think should be set right without delay. A point demanding attention in our garrison class system. It is this—

Our garrison classes are held in the hills and the candidates are examined in the hills. One of the subjects for examination is a tactical scheme, and part of the surrounding neighbourhood has to be selected as the theatre of operations for an imaginary force. This necessitates a more than superficial knowledge of that peculiar and very difficult subject, hill warfare, in extremely difficult hills.

Now it requires special and careful training to handle troops in such huge and difficult hills as the Himalayas. Few candidates get any special training in this subject in peace time. Many excellent little books have been published on frontier and hill warfare, but men whose regiments are always quartered in the plains never get a chance of studying the subject of hill warfare practically till they go to some Frontier campaign. They require more than the pamphlets I have referred to.

But to proceed with my comments on the garrison class examination, The examiners are supposed to set a tactical scheme involving

the use of all arms. Now the handling of cavalry successfully in hills like, for instance, the Simla or Dalhousie hills would puzzle most great cavalry leaders. To even handle infantry successfully in such hills is a difficult art, and one not to be learnt theoretically. Nor can it be learnt, except very superficially, in the time at present allowed for a garrison class course, especially when the candidates have half a dozen other subjects to rush through. And yet they are called upon at the examination to handle an imaginary force of all arms in difficult hills.

I am speaking from personal experience ; and to illustrate the absurdity of this part of our present

An illustration.

system, I will relate what actually happened when I myself was once a member of an examining board.

The president had made out a tactical scheme, and, as usual, cavalry (on this occasion, three squadrons) formed part of the force supposed to be at the disposal of the candidates. The bulk of it consisted of an infantry brigade composed of three regiments, together with a mountain battery, and a long train of transport animals.

The president had originally included in the force two field batteries, but to these the other member of the board and I myself strenuously objected, as also to the cavalry, on the score that the roads were too narrow for field guns, and the ground generally very difficult even for infantry. The field batteries were accordingly struck out and the mountain battery substituted ; but the cavalry remained in the scheme because the instructions for the guidance of the board laid down that the tactical scheme must be for a force of all arms.

The brigade was supposed to be in column of route advancing by one narrow hill road, just as sometimes happens in our Frontier campaigns. The brigadier was in ignorance of the enemy's immediate whereabouts. All he knew was that they were advancing on his force from a certain direction, and was probably ten or twelve miles off.

The opening question was fair enough I think ; it ran as follows : state what will be the composition of your advance guard.

With the exception of, I think, two officers belonging to Frontier regiments, who had learnt a good deal about hill warfare both in peace time and on service, all the candidates were either cavalry men, or men who had come from regiments stationed always in the plains ; they had never had a chance of studying the art of handling troops in the hills.

In replying to the question I have mentioned, the cavalry men placed the whole of the three squadrons at the head of the advance guard along the single narrow road with its tremendous khuds on either hand, because, they said, the " drill books " laid down that cavalry must precede an advance guard. No infantry scouts were sent out to the tops of the hills whence they could have procured a view stretching miles away even as far as the plains. When it was

pointed out that the cavalry were obliged to move in file, and were unable to form line or even sections to their front, or advance up the khud on the one flank, or down it on the other ; and when asked what they would do if a body of the enemy lying *perdu* amongst the rocks, and concealed in the undergrowth on the khud above them, allowed them to come on and then opened a heavy fire on them ; the cavalry candidates replied that they did not know ; that they had had no experience with cavalry or infantry in such places ; and that they had only the drill books to guide them. I confess I was pleased at their reply because it emphasised to the president the remarks I had previously made to him regarding the absurdity of including cavalry in a force operating in such a country. Still, it must be remembered that his hands were more or less tied by the wording of the printed instructions for the board.

Of the remaining candidates all, except the two Frontier men, contented themselves with giving *verbatim* the composition of an advance guard as laid down in the drill books in use at that time, and of course was not applicable to hill warfare in Indian mountains.

The other member of the examining board was a staff college man. He turned to me and said, "What folly it is to expect these poor chaps to know anything about handling troops in a country like this. I don't know anything about it myself, nor do they teach this at the staff college. If candidates are to be examined in tactical schemes in the hills they ought to be first attached to a Gurkha regiment, and learn the work practically." And he was right. If officers are expected to be acquainted with hill warfare, they should be sent to learn the work by being attached to a Frontier force, Gurkha, or other regiment stationed in or near the hills, where the art of warfare in mountains is made a speciality.

Again, the answers given by the candidates, at this particular examination, to questions on outpost duties in the hills, showed how handicapped they were by never having had any practical experience in such work.

Infantry officers, before going up for their tactical fitness examination, are allowed to be attached to a battery or a cavalry regiment in order to learn something about the handling and the possibilities of these two arms of the service. Why, then, should not officers who are going up for the garrison class examination be attached to some regiment in which hill warfare is thoroughly understood, and practised ? It would not merely be only fair to them, but it would also educate them in a subject which is at once difficult, useful and interesting. No one fully realises how much there is to learn concerning the handling of troops in the hills until he begins to try and do it himself.

But as it is equally necessary that candidates should answer questions involving the handling of troops in the plains, why should they not, on their way back to their regiments from the class, be assembled at

some place in the plains, and be set a tactical scheme on the subject of warfare in an ordinary country?

The faults in our system of garrison class instruction in India which I have mentioned are, I think, such as can be remedied with a little thought and care. The remedies I have ventured to suggest do not offer any insuperable difficulties.

The examination of senior officers in tactical fitness for command

Review of our system of examinations in tactical fitness for command. is part of our system of educating and training regimental officers; but as it does not take place till long after an

officer has passed his garrison class training, I have not touched on it till now. The rules for this examination, as laid down in Appendix viii of the King's Regulations, are worded so minutely and carefully, and with such detail that they leave nothing to be desired in the way of improvement and offer no real loop-hole through which an inefficient officer can creep. This examination of senior officers in tactical fitness for command is a most useful and most necessary part of our system. Officers used, undoubtedly, to get rusty after the many years which elapsed between their garrison class examination, and their succession to a command. The introduction in recent years of this examination in tactical fitness now compels senior officers to read up professional subjects, and keep themselves *au fait* with the advance of military science.

Now, I have said that the regulations regarding this examination are so carefully worded that they offer no real loop-hole through which an inefficient officer can creep. And yet the fact remains, and most of us are well aware of it, that inefficient officers are occasionally let through; and then, afterwards, by displaying their inefficiency on some important occasion, they cause the critics to blame our system.

There is something wrong here; some evil or error is making its presence felt. Let us see what it is. I used the words "let through"; I did not say "pass the examination satisfactorily." The enemy within our gates is the "milk of human kindness." The examining board do not like to be "hard on a fellow," and so let him through. We have had one or two stiff memos. from Army Head Quarters condemning this misplaced leniency. And yet, since their receipt, we have most of us known cases of men "let through" who were hopelessly and irreclaimably inefficient; men who, perhaps, had failed to pass at their first trial, but on presenting themselves a second time the board "let them through," because it would have been hard to ruin their prospects. What is the remedy? There is but one answer, and it sounds hard and relentless. The board must steel their hearts, and set sternly before them the question, what is best for the army, not what is best for the individual.

It now remains to review our system of educating and training

Review of our system of educating and training staff officers. Regulations regarding the selection of

officers for staff employ ; the qualifications required in candidates before they are allowed to compete at the entrance examination for the staff college ; the subjects in which they are examined ; the *curriculum* at the college itself ; a perusal, I repeat, of all these Regulations, &c., makes one wonder how it is we hear any complaints at all about our system, and about the unsatisfactoriness of staff officers. They are so explicit, and so exhaustive, that here again it appears as though every loop-hole were closed through which failure might creep. And yet there is failure as every body knows ; though perhaps not altogether quite so much as critics aver. I am inclined to think that our system, and our staff officers themselves, are by no means wholly and entirely to blame for the failure.

To begin with, staff officers are but human, and therefore liable to err in judgment sometimes. And yet if a staff officer does make a mistake there is too apt to be a general outcry not only against him individually, but against the staff in general, the staff college, and our system of education and training.

But while I state boldly that in my opinion staff officers, and our system are not wholly and entirely to blame for failures, still at the same time I will as boldly state that there are errors and shortcomings in our system itself, and evils and adverse influences which affect it ; evils and adverse influences either closely connected with it, or standing apart from it, but which militate against its successful operation.

Now since the regulations appear to be so carefully framed as to minimise if not to altogether preclude all possibility of failure, and as, nevertheless, there is failure, one naturally asks, wherein do we make mistakes ? To a certain extent the fundamental error may be discovered in the fact that insufficiently prepared material has originally been provided for us with which to build up our edifice, our system of military education and training. Failure in cases where staff officers do not come up to our requirements may also partly be due to the present insufficient and not altogether efficient regimental training they receive.

But these two causes cannot be the only reasons for failure ; for our staff college graduates at any rate are as a rule officers with good brains, even though, as is affirmed, they sometimes do not appear able to apply practically what they have learned theoretically. They are men who have studied their profession, its science, its art ; it may be only theoretically, but still they have studied the art of war, and other useful subjects too. Many of them, as I know personally, have studied for the entrance examination for the staff college in spare time ingeniously carved out of the busy hours spent in ever-increasing regimental work and garrison duties. This fact in itself is a proof that the desire to improve and qualify themselves professionally is strongly alive in them. This is a great *desideratum*, and many steps in the right direction.

I think the first reason that suggests itself for the failures come plained of, is that the wrong men are occasionally allowed to go up for the entrance examination for the staff college. Studiousness, desire to learn, theoretical knowledge are all very good, but they are not all that we require in a staff officer. He must be able to apply his knowledge practically; and this is not given to all men.

But though the wrong men may *occasionally* be allowed to go up for the entrance examination, this is not the only cause of failure. There are other methods of obtaining staff appointments besides passing the entrance examination for the staff college. Paragraph 217 of the King's Regulations intimates that "Officers having the rank of lieutenant-colonel and all officers of proved ability on the staff in the field" can be appointed to staff employment without passing through the staff college. Paragraph 1144, again, informs us that twenty-four vacancies at the staff college are filled annually by competition, that is by men who pass the entrance examination subject to certain conditions, and eight by nomination. There are, then, it appears, four ways by which an officer can obtain staff employment (as regards the home army) :—

- i.—By passing the entrance examination for the staff college and by a course of two years' study there.
- ii.—By nomination to the staff college.
- iii.—By selection on attaining the rank of lieutenant-colonel.
- iv.—By selection on account of ability shown on the staff in the field.

These all appear reasonable and right enough, and therefore the only logical conclusion at which one can arrive is that, not only must the wrong men now and then be allowed to go up for the entrance examination, but that the wrong men are sometimes nominated or selected under headings ii, iii and iv. If that be the case then neither our system of education nor the staff college are wholly to blame. Clearly the officers who give the certificates and "*replies*" required by paragraph 1146—the officers who select and nominate—must sometimes make a mistake.

The remedy of course is obvious : greater care and discrimination are necessary. By selecting and nominating the right men and then training them in the right way successful results will be obtained.

But now comes the question, is our method of training the "right way"? "right way"? Let us examine it.

The course at the staff college is almost entirely a theoretical one. This is unavoidable; and indeed this is what it must be, because the unit from which the candidate comes is the place where he

is supposed to have received a certain amount of previous practical training either on field service or at manœuvres. The staff college is intended to fit him theoretically for a higher class of practical work, and also for a good deal of exclusively office work. When graduates, after leaving the college, fail in such work, it is not quite fair to lay the entire blame on the college itself. The fault in such cases is to be found partly in the natural inability of some men to apply what they have learned. In a word, the wrong men have been put through the course.

I say the fault is to be found *partly* in the above fact; but only partly, because there is another reason. There is an error which we make; an error not directly connected with our staff college system, but one which directly affects and hinders its working successfully. What I refer to is this—

It sometimes happens that graduates from the staff college obtain staff employment in peace time, but are given no opportunities of going on field service. Sometimes for years they get no chance of learning to apply practically what they have learned theoretically; sometimes they never get a chance at all. Why is this? Is it fair to them or to our system of education and training? Opportunities of sending them on field service occur almost annually on the Indian frontier if nowhere else. And yet the appointments to the staff of the force taking the field are largely bestowed on men other than staff college graduates. It is not surprising then if, year by year, they should grow more and more rusty in practical work in the field, till some day when they do go on service they fail to come up to general expectations. The blame of failure in such cases clearly cannot, with any fairness, be laid on our staff college system or on the graduates.

The remedy for this error which thus blocks the success of our system is plain. Give every staff college man a chance of practical work in the field as soon and as often as possible. It seems only reasonable that if you train men for any special work you should employ them on that work, and perfect that which you have begun.

There is, however, a fault in our Staff College system itself which a fault in the staff college must not be passed over unnoticed. system itself.

The instructors at the college have not always been happily selected. Sometimes there have been amongst them men with no very great practical experience. I think it will be generally admitted that for a man to be a good teacher of music or painting, it is essential that he should be able himself to play or paint; and, indeed, that he should have done a good deal of actual playing and painting. In the same way, for a man to be an instructor in the art of war it is essential that he should have something more than a theoretical knowledge of what he professes to teach. Unhappily our staff college pro-

fessors have not always been men with a large practical experience of war.

The remedy for this error is, just at present, easy to obtain ; for

A remedy suggested.

there must be a number of men available as staff college professors who have had practical experience of war in South Africa and elsewhere. I include "elsewhere," for it will be necessary to guard against the inclination to select men who have only experience gained in our campaign in South Africa. This campaign has undoubtedly many lessons to teach us, but it would be unwise to lose sight of the fact that it was a war with peculiarities of its own which, while we may turn some of them to useful and practical account, are not likely, in certain particulars, to be duplicated in, say, a European war against a continental nation. We require professors who have had practical experience in other campaigns besides that of South Africa. Egypt, the Soudan, the Indian frontier, have all useful lessons to teach ; lessons, too, on quite different lines to those taught by South Africa. But though on different lines it would be just as well that a professor of the art of war should have had practical experience of them, for who knows when we may not be at war again either in those same places themselves, or under somewhat similar conditions ?

I think, therefore, that one improvement we can make in our staff college system is to be more careful to select instructors who have had plenty of practical experience in what they teach. The staff college *curriculum* in itself appears to be good, and to call for no radical alteration ; but we want instructors who can lecture and teach profitably ; and, after that, a fair chance given to all graduates of applying practically on service what they have learned theoretically.

But there are also sundry errors, and adverse influences which exist, and which undermine our system, and are impediments in the path of success ; and as long as they continue to exist they will sap and undermine any system.

Sundry errors and adverse influences which are prejudicial to the success of our system.

These errors and adverse influences are to be found in our methods of selecting officers for staff employ, and not in our system of education and training. They must, however, be dealt with because they affect that system ; they are the white-ants eating out the core of the beams and wood-work of our building. I have already touched on the desirability of employing more care and discrimination in signing certificates for candidates, and when selecting officers classified under headings ii, iii and iv. But in order to discover and get a grip on the other errors and influences which undermine and obstruct our system, let us examine the methods by which officers are selected from the Indian army for staff employ.

Officers of the Indian army are at present eligible for staff employ without having graduated at the

Investigation of how our methods of selecting staff officers affect the success of our system of education and training.

staff college, and the methods by which they are chosen are so similar to those by which officers are selected in the case of headings ii, iii and iv, that we shall be able to kill two birds

with one stone by examining the manner of selection as it obtains in the case of officers of the Indian army. It is necessary to examine the methods of selection because if there is anything wrong with them, then no system of educating and training staff officers can possibly succeed as long as they are allowed to continue. Any method of selection which conduces to, or gives a loophole for the selection of the wrong men, cannot be considered advisable for the interests of the country or the army in general.

I will classify the methods of selecting officers from the Indian Army for staff employ under three headings :—

- (a) Some of those selected are men with little or no interest who by force of character or an irresistible individuality, have fought their way into notice, and in some way or other have shown they were too good men to be over-looked.

Method (a).

- (b) Others again are selected because they have influential friends or relations who, knowing they are good men, use their influence to get them on the staff. And by so doing, those influential friends or relations often get freely abused by those who will not take the trouble to reason out whether, after all, they were not perfectly right in pushing on men whom they personally knew were the best and most fitting.

Method (b).

- (c) The third method of selecting officers for staff employ is by interest wrongly used; or in the words we have heard so often lately, by "undue influence."

Method (c).

Now the question we have to consider is, do these methods of selecting officers for staff employ militate against the success of our system of education and training; and are they susceptible of improvement?

The methods I have classified under (a) and (b) have undoubtedly

Discussion of methods (a) and (b) and their bearing on our system. much that is good in them so long as no element of (c) is allowed to filter into them.

Against (a) I do not see any valid objection can be raised, especially if, as I propose further on, certain improvements are introduced and certain precautions taken to prevent any taint of heading (c) infecting it.

As regards (b) the dividing line between it and (c) is very thin, and the cry of "undue influence" is so loud at present that the dust caused by the uproar gets into one's eyes, so that we sometimes do not distinguish clearly between influence wisely and beneficially employed, and undue influence. Permit me therefore to give an example of what I mean by influence used wisely, and in such a manner as to come under my heading (b).

Suppose an influential officer is called upon to select for an appointment one out of twenty applicants. Let us further suppose that nineteen of these applicants are unknown to him personally or professionally and have been merely recommended to him by other human beings who were all as liable to err in judgment as the rest of mankind are. What should he do if the twentieth man was a relation or friend of his whom he knew perfectly well, from personal experience, was just the very man for the appointment? Which of the twenty should he take considering the fact that he is held personally responsible by the King's Regulations if the selected officer turns out a failure? Ought he to take the man he himself knows is good and well fitted for the post, or one of the nineteen whom other people think good? Is he to rely on his own judgment or give way to please others?

I have no desire to uphold "undue influence," or selection by interest wrongly used. I am in no way pleading for it. I merely wish to emphasise the fact that there is such a thing as influence rightly used, and the use of influence in such a manner is what I have classified as method of selection (b).

With this explanation of the meaning I wish attached to method (b), I will now pass on to my proposal for improving on both (a) and (b), and making them conduce to the success of our present system or that of any other scheme for training and educating staff officers which may be introduced.

I would propose that officers selected by these two methods should be first thoroughly tested by Suggestions for improving methods (a) and (b). being allowed to officiate in junior staff appointments, and if after, say, two years' work it is clear they are full of promise, and have also had (this should be a *sine qua non*) a sound practical regimental training, let them be sent to the staff college for a thorough advanced theoretical training.

Applying this proposal to the home as well as to the Indian army, we should soon have a number of good men to choose from when making selections for the staff college; men, too, with whom the professors there could work with every prospect of success.

The difficulty, of course, would be the elimination of all taint of method (c). To try therefore and control the selection and keep out the undesirable influence of (c), I would suggest, firstly, that the selection of officers for the staff college course from those who have served their two years' probation as above should not be made by any one individual, but by a committee of, say, five very senior staff officers in each command in India.

Secondly, that this committee of five should be composed if possible, of officers who are personally acquainted with the manner in which the young probationary staff officers have performed their work; and who are in a position to form a right judgment of their character and qualifications for advanced staff training and employment.

Errors are bound to creep into any system of selection that may be proposed, but I think that selection made by methods (a) and (b) guarded by my proposed scheme of probationary training and careful re-selection, would probably succeed, and that there would be far less chance of any taint of method (c) creeping in. It must of course be emphatically impressed on the committee that mere interest is to count as no qualification at all unless accompanied by well marked merit, and sound promising work during a period of at least two years in officiating junior staff appointments.

Perhaps this idea may be called utopian; some may think that it can never be carried out, and that interest is sure to heavily outweigh merit. I can only reply, "But it can be tried;" without a trial it is impossible for any one to be certain that failure will result.

But as a still further safeguard against method (c) it could easily be laid down that all officers selected as I have suggested should pass an examination for the staff college, competitive or qualifying.

I would now pass on to the consideration of the method of selection classified under heading (c).

Method (c). It is a method which in no way commends itself. In referring to it I am merely dealing with a subject which some of those in high authority recognise as an evil, and are desirous of eradicating. It directly affects our system, for what is the use of educating and training men for staff employ if they are liable to be set aside by undue influence exercised on behalf of others? Moreover, when men selected by undue influence fail in the hour of trial, our system and our military trainers and educators come in for a share of the blame.

Now "undue influence," "interest wrongly used," call it what you will, exists in every profession the whole world over. And it will exist as long as human nature remains what it is. We cannot eradicate it wholly. It must therefore be dealt with in the same way that we deal with other social evils which we cannot wholly prevent; we must control it. I have already suggested one method of doing so; another will be found further on in this essay.

I do not for a moment wish to sit in judgment on those in whom exists this tendency to exert their influence unduly on behalf of friends and relations, for which of us can afford to throw a stone at his fellows in this respect? And how many of us can truthfully say in the words of an old writer, "I love my children, but I love my country better."?*

There was another outside influence which used to operate against the success of our system, and that until quite recently. I refer to the practice of allowing staff officers to remain absent from their units for lengthy periods. Lord Stanley, in answer to a question asked in the House the other day, replied as follows:—The

Another influence which, until lately, operated against the success of our system.

* *Plutarch. Præcepta Græcæ Reipublicæ.*

tenure of staff appointments is reduced from five to three years with the view of keeping officers in touch with their units, and to curtail lengthened periods of absence on the staff.

Here, again, we have an instance of the recognition by high authority of an evil which operated against the success of our system of training staff officers. The manner in which the practice of allowing lengthened periods of absence on the staff exerted an undesirable influence on our system, was this. Staff officers lost touch with the actual fighting part of the army—I mean the regimental officers, rank and file. A staff officer ought to know by practical experience, periodically furbished up, how to handle men ; what they can do and what they cannot ; what regimental difficulties and requirements are, and so forth. He must by periodical training, be kept in the closest touch with the men who do the rough and tumble part in a fight. The men who have to use their brains, and the men who have to use their muscles must be in harmonious and close touch with each other ; the two strands of the rope must be intertwined to make it strong.

The practice of allowing prolonged periods of absence on the staff grew to such a pitch that some staff officers never returned to their units at all. They went on from one staff billet to another until they became general officers and commanded troops in the field. Then, if any of them failed in the hour of trial, our system of education and training, our method of selection, and our staff in general came in for a round share of blame. Was it fair to our system, was it fair to the officers themselves, or to the country, to take them and place them in responsible positions as leaders of men in war, after keeping them for long years at office work, and never giving them a chance of furbishing up their practical training by serving for a spell with their units ? The recent order on the subject shows clearly that our highest military authorities consider it was not fair.

The connection that this subject has with the training of our staff officers is too obvious to require further explanation. I would only venture to suggest one improvement in connection with it ; and that is, that on returning to his unit a staff officer should be required to put in two years of actual duty with his unit. Otherwise the evil may creep in of officers spending the larger portion of these two years on leave instead of in necessary training.

We must consider not only the material we do get, but the

Good material for training material we might get if we look for it, which is sometimes lost.

There are and always have been many excellent officers in units who either hide their light under a bushel and have no one to push their interests, or who have had the misfortune to be overlooked somehow. Many of them are men who would make excellent staff officers, and we cannot afford to overlook them. I would therefore suggest that general and commanding officers should be called on frequently to submit the names of such individuals, and report on them ; and further that *such reports should not be pigeon-holed*. Such officers should be allowed to go up for a special qualifying

examination, and then be given an early opportunity of officiating in staff employ for two years. At the end of that time their applications for permission to compete for the staff college should be considered by the board previously referred to. We should thus get some good material which at present too often lies unused.

It may be urged that my various proposals would produce a

An objection which may be urged against the foregoing various proposals, *plethora* of staff officers ; that there are not enough staff appointments to go round ; that the supply would be greatly in excess of the demand.

In reply I would point out that a certain number of men would yearly vacate their appointments either under the three years' tenure rule, or by going to the staff college. The officiating vacancies thus caused would accommodate some of the regimental officers referred to in my last paragraph, who would be recorded as having qualified for probationary staff employ ; while the permanent vacancies would be available for men who had passed the staff college course, and were awaiting employment.

As regards there being a *plethora* of staff officers I would draw

Need of a reserve of officers qualified for staff employ. attention to what most thinking men must have noticed, and that is our urgent need for a big reserve of men specially trained and qualified for staff employ.

England is almost annually engaged in some campaign small or great ; sometimes we have two or three going on simultaneously in different parts of the world. For these campaigns a number of staff officers are required. How are they to be selected ? There are not enough—not anywhere near enough—trained and qualified men to fill the appointments. The consequence is selections are largely made by means of method (c). Give us a large number of trained and qualified men ; make it a hard-and-fast rule that selections must be made from the reserve of staff officers when choosing the staff for a force about to take the field, and then method (c) will be under control. This is the further remedy for controlling the tendency to employ undue influence, to which I referred in a former paragraph.

It may at this point appear that I have wandered from the subject set for this essay. By no means ; I have dealt with the training of staff officers in peace, and now I am but urging that they should be given their practical training in war time. How else are they to become fully trained staff officers ?

A reserve of officers, qualified and specially trained for staff

A corps of officers trained and employed on staff work only. employ in the manner I have attempted to describe, almost amounts to a corps of permanent staff officers whose work is exclusively staff work. But it is quite the same thing. Our officers, by frequently returning to

their units, would be always in the closest touch with the work and needs of the fighting portion of the army; they would not be permanently in staff employ, though they—and they only—might be the only officers employed in staff work. This I believe would suit our requirements better than following too closely systems that obtain in foreign armies. We have not sufficient proof that what works well in foreign armies would work equally well in ours, and meet present-day requirements. We must not lose sight of the fact that continental nations have had no serious fighting for may a long year; and therefore we cannot tell how good or how rotten their various systems might prove if they went to war now. England and her officers know a great deal more about actual fighting under various conditions, and about practical military requirements in time of war, and practical work in the field, than any other nation does, from the simple fact that we are incessantly engaged in war on a small or big scale. That is one reason why we are always finding out our faults, while other nations go on blissfully imagining they have none, and sometimes sneer at us. The fact is they have no opportunities of discovering their own weak points.

It does not follow that what suits foreign armies in peace time, or what may have suited them in war under old conditions, will suit us who are incessantly at war.

Now all that I have ventured to suggest practically amounts to this; try your material thoroughly first by two years' probationary staff work and then send the best of it to staff college to receive advanced theoretical education. This is in effect a reversal of our present proceeding, which, speaking broadly, is to educate officers first at the staff college and try them afterwards.

So many complaints have lately been made against our generals, our staff officers, our officers in general, and our system of education and training them, that it is necessary for us to rouse ourselves, and make a thorough and searching investigation not only into our system itself, but into all matters which directly or indirectly influence its success. The question is not whether any suggestion is palatable or otherwise, but whether, when carried out, it would or would not give our officers better and more useful training, and so conduce to our obtaining a better staff. The question of providing our army with a first rate staff is too serious to be trifled with, and sentiment and a desire to say smooth things so as not to give offence to any one are entirely out of place when one is discussing this important question. Nothing is to be gained by concealing or throwing a veil over what is going wrong, and our own authorities themselves are trying to set things right. All that I have said is but an atomic push in the direction of the desired resultant towards which more powerful dynamic forces than mine are operating.

I understand the words "staff officers" as they occur in the subject set for this essay, to include staff officers serving in various departments other than the Military Department, Adjutant General's and Quartermaster General's Departments, and their various branches. Such officers form part of and are shown as part of the staff of a district, command, or of head quarters.

The training of Departmental Staff Officers. The system of training them, and the rules regarding it, as laid down in the King's Regulations appear to leave little to be desired. And yet we hear frequent outcries about their inefficiency, especially in times of emergency. I do not believe our system of education and training them is to blame. The real fault lies in the fact that many of these departments are under-officered, more especially the commissariat and transport. In times of emergency the officers of these departments are compelled, through sheer lack of time, to depend greatly on the help of unscrupulous subordinates. Our system would work well enough in the case of departmental officers if it were not hampered and thwarted by insufficiency of material with which to work.

And now let me conclude by summing up as briefly as possible the main points on which I have dwelt in this essay. For the sake of clearness I will classify them under separate headings :—

- (i) The faulty results complained of in our present system of education and training are not due wholly and entirely to that system.
- (ii) The fundamental error lies outside it, and is to be found in the unsatisfactory grounding (for subsequent professional education and training) provided by our primary and public schools.
- (iii) It being impossible to obtain universally satisfactory results with the material they provide for us, I proposed that an army school should be founded on similar lines to the one provided to meet the needs of the navy.
- (iv) On the other hand I have endeavoured to point out the errors which are really inherent in our system itself, reviewing and dissecting it from the time it begins its work at Woolwich and Sandhurst, up to training and education of staff officers.
- (v) I have also shown that it has neither a fair start nor a clear course; for any review of our system which omitted to do so would be unjust, one-sided and misleading. I have, therefore, clearly indicated the influences which directly or indirectly affect its successful operation.

There may be failures in our system, and causes which conduce to failure, which I have not mentioned in so many words. But I believe the suggestions for improvements which I have offered will be found on

Concluding remarks.

examination to apply equally well in their cases as in the cases of those to which I have made direct reference.

To refer to and discuss some of these faults and adverse influences has been no pleasant task; but, as I have said, most of them have been already recognised as existing and as prejudicial to the welfare of our army, and to the success of our system. So I cannot claim to have turned up altogether new soil. Still I approached and discussed some of these subjects reluctantly. In the words of Livy, "I touch on these subjects unwillingly, for they are like wounds, but unless they are touched and handled no cure is possible."*

It would have been easy to have omitted all reference to them, but that would have been common-place, and would have shown a contemptible lack of moral courage. The subject for this essay was not set by way of offering merely an amusing pastime, but in order that it might be thoroughly threshed out; the corn was intended to be separated from the chaff; the weevils and the grain they had eaten were not intended to be left unnoticed. My desire has, therefore, been to avoid being one of "those who cry peace, peace, when there is no peace;" or one of those who "sew pillows to all armholes." In other words, those who speak comfortably—those who lull to a sense of comfortable but false assurance by flattering and unctuous phrases, and say all is well when all is very far from well.

The Arabs have a saying, "Al hakku murrun," *i.e.*, truth is bitter. But I take it we are not now concerned with the taste of truth; and I have written for those who want to know the truth, and who care not a jot whether the straight forward honest mention of errors and evils which rob our system of success is bitter or unpalatable.

There are many incidents in England's past history which teach their lessons to the present. There is one I often picture to myself: it is that of our sturdy English lads standing with Harold at the battle of Senlac, and engaging the invading Normans with fierce cries of "out, out." One can almost hear the hoarse shout of the "Tommy" of that period—"Get out of this." It seems to me that the past here cries aloud its lesson to the present, and that England needs her influential men to say to all evils and errors that have invaded her army, and its system of education and training "Out, out; get out of this!"

We cannot make our army the best in the world, because it is that already. I speak from what I have actually seen of other armies as well as from what I have heard and read. I would not exchange our officers and men of our British, Indian or Colonial forces for those of any other nation, in spite of our shortcomings. But we can improve ourselves; only, when we set about improving ourselves, let each of us, from the highest to the lowest, remember that, in the words of my motto, "*The first step towards amendment is the recognition of error.*"

* Livy, Histories xxviii, 27.

V.

BY CAPTAIN T. O. MARDEN, THE CHESHIRE REGIMENT.

Motto—"Je vis en espoir."

INTRODUCTION.

The question of the military education of our officers has only attracted public attention since our military education. Influence of the Boer war on the Boer war. The press, voicing a people clamorous for a scapegoat, unanimously denounced the regimental officer, dubbing him incompetent, ignorant, and lazy. Whatever his shortcomings, history will probably condemn this hasty judgment. The popular verdict was however, accepted, and a committee was appointed by Parliament to enquire into the education of our officers. Beyond a few suggestions which will be referred to hereafter, the Committee threw little light on the subject of this essay, which was not surprising considering that the majority of the members were civilians. They established one point, however, which bears on the matter under consideration, namely, that candidates for commissions were not taught to think for themselves; that our system of examinations taxed the memory at the expense of the reasoning powers.

This fact added to the success of our own ready-made soldiers and of our untaught enemy in the recent war, gave birth to what might be termed the "common-sense" school, who hold that military education is for England almost unnecessary. They argue that the work of the British officer lies so entirely in small wars waged under ever-changing conditions, that it is worse than useless to encumber his brain with the details, and almost even with the principles which apply only to civilised warfare, and that the best preparation to enable him to grapple successfully with the problems that arise is to leave him entirely unhampered by traditions, and to encourage his sporting proclivities. Further that the genius of the British officer and of the nation generally does not incline towards book learning, but rather to the making of experience at first hand, as has been proved by history.

The other school hold that if it is considered necessary for the German officer, who is only called on to face the one problem of how best to fight his neighbours on soil and in a climate similar to his own, to be well educated, how much more is it necessary for the British officer,

who in addition to the possibility of meeting a civilised foe has to fight all over the globe under all conditions of warfare, climate and terrain; that we should be fools not to profit by the experiences of others as shown by military history; and that though we may suffer defeat in a small war, we cannot be overthrown as a nation except by one of the great European powers, so that we must perforce make civilised warfare our principal study. Further, that victory is no longer to be obtained by precise movements of masses, but will incline to that side which shows the greatest intelligence in adapting itself to the means at its disposal; that this demands not only more intelligence from the individuals composing an army, but also the serious study of the art of war by the officers who direct its energies. Hence that the army must become a profession if we are to hold our own, and that ignorance is less to be tolerated in a profession on which hang not only the lives of thousands but the destiny of an empire, than in those such as medicine, engineering or the law which affect only the well-being of individuals. No one will affirm that the Boer war was a severer test than one with some great European power, but it was sufficient to prove that, though common-sense is the chief requisite for subordinate leaders, yet for officers who have to lead and train an army composed, not of born hunters and educated professional men, but of uneducated and mainly city-bred youths, a thorough knowledge of what is essential in war, is absolutely vital, and that this cannot be obtained without study.

Common sense is a rare natural attribute, but sound judgment, its resultant, can be cultivated by studying precedents and by a ready grasp of influencing factors.

It has not been found necessary to record in official language the necessity for the study of the military art by those in high command or in responsible positions on the staff. But in an army order of 1901, which is now embodied as paragraphs 1058-59 of the King's Regulations, the opinion of the highest military authorities as to the training and military education of the regimental officers finds expression thus :—

“In the training of every regimental officer, whether senior or junior in rank, the main points to be borne in mind are the formation of character and development of resourcefulness, prompt decision and a readiness to accept responsibility, and to act with sound judgment in accordance with the circumstances of the moment * * * * The officer ought to be in all respects the instructor and leader of his men. The performance of his duties depends not only on his zeal, temper and common sense, but on the thoroughness of his professional education.”

It now remains to discuss whether our system is suitable to the attainment of these ideas.

One other point, however, may first be noticed. Many of the witnesses before the Committee of Education attributed the ignorance of the regimental officer not to lack of intelligence, but to the want of competent instructors. Teaching was stated to be an art, which art was totally neglected in the army. This is true in the sense that no school exists where the art of teaching may be learnt. But the power of imparting knowledge is more a gift than an art, and not every schoolmaster is a good teacher. There is, however, much difference between teaching languages or exact science and instructing others how to imply principles to ever-varying circumstances. Civilians may be able to teach law, topography and even fortification, but "tactics change every ten years" and can be taught by none but practical soldiers, whose constant experience with troops in peace and war enables them to reject useless theories, and to discriminate between what is essential and what is merely useful. The scholastic differs so widely from the military temperament that any attempt to harmonise them must end in failure.

THE REGIMENTAL OFFICER.

Military education.

There are two methods adopted of ensuring a certain amount of military education to regimental officers—

- (a) Examinations for promotion.
- (b) Schools and classes of instruction.

Of these, series (a) are compulsory, series (b) are not compulsory with the exception of a certificate from the school of musketry for officers of cavalry and infantry and from the veterinary school for officers of the mounted branches.

Examinations.

Examinations are of three kinds—

- (i) An examination in (a) regimental duties and (b) drill for 2nd-lieutenants before promotion to lieutenant, and for captains before promotion to major.
- (ii) An examination in (c) military law, (d) military engineering, military topography and tactics, (g) organisation and equipment for all officers [except that army staff corps officers pass a special examination in (f) army staff corps duties instead of (g)] before promotion to the rank of captain or major. Artillery subalterns also pass an examination in (e) artillery subjects.
- (iii) An examination in tactical fitness for command before promotion to 2nd-in-command or rank of lieutenant-

colonel, consisting of map-reading, disposing troops, and writing orders both on paper and in the field, and in handling a small mixed force.

Certificates from certain schools are accepted in lieu of parts of subjects (c) and (g).

To prepare themselves for (c) and (g) examinations officers may attend a garrison class, if they can be spared, once in each rank. To prepare for the third they may be attached for six weeks to arms other than their own.

The value of examination cannot be gainsaid. There is comparatively little reward in the army for having acquired knowledge, and hence little inducement to an officer to study anything outside his own every-day work. Examinations supply the necessary stimulus. They form obstacles across the course of promotion which must be negotiated, and they ensure that the theory and often the actual service work of an officer shall be learnt twice at any rate during his service.

There are, however, many points about examinations as now conducted which may be considered under the following headings:—

(a) Do the examinations embrace all the subjects necessary for the military education of the soldiers?

The examination in subjects (a) and (b) may be passed as adequate. But in the (c) and (g) examination there is one omission which admits of much discussion. This examination has as its aim the ensuring that a regimental officer shall have reasonable acquaintance with the theory and technical portion of his profession, with a view to his being "in all respects the instructor and leader of his men" (King's Regulations, 1059). It cannot also be doubted but that the theoretical knowledge of his profession adduces greatly to "the development of resourcefulness, prompt decision, and a readiness to accept responsibility and to act with sound judgment in accordance with the circumstances of the moment" (King's Regulations, 1058). Knowledge is power, experience is a good teacher. It has been in all ages the sign of a wise man to profit by the experience of others. Even those who created experience for following generations, such as Napoleon, Wellington, V. Moltke, did not despise the experiences of others. How then can it be sound to eliminate from the instruction of our officers all reference to the actions of the past? It is true that the experiences from the wars of the past are deduced and compressed in drill books under the head of general principles, but is not example greater than precept, and would it not impress these principles more indelibly on the mind of the student, if military history were studied in connection with them? But it is perhaps in connection with the exceptional circumstances which continually present themselves on

service to even the regimental officer that military history is most useful. It often provides him ready-made with a parallel instance whence he can form his prompt decision. In war, as in other mundane matters, history repeats itself. The Boer tactics are but a reproduction of those employed by the Mahratta horsemen against the armies of the Great Mogul, the same deep trenches of the Boers were employed by the Turks at Plevna, the use of brown cloth to simulate the ground is to be found in Napier's account of the siege of Badajoz. But in deciding that military history is a subject which should be studied by all officers a reservation must be made. That much benefit can be derived by the regimental officer from following in detail the movements of individual companies in the battle of Spicheren, or of a close study of the official reports of the Franco-German war, or of the campaigns of Napoleon or Marlborough is doubtful. The British officer does not come of a studious stock; the genius of the British nation lies rather in the gaining of experience at first hand than in studying the experiences of others. By the British officer, who fights now in Egypt, now on the North-West Frontier of India, now in China or the Transvaal, under the ever-varying conditions of terrain, climate, transport, hostile tactics, and organisation of our own forces, military history must be approached with discrimination and be studied always with reference to its bearing on modern tactics and to the changes which time has effected in armaments and the physical features of the various theatres of war. From almost any campaign can be learnt the great lessons of the disasters which dog the footsteps of nations unprepared for war, and of commanders who disregard the fundamental principles of strategy and tactics, but for the British regimental officer by far the most valuable studies are our own small wars, the guerilla warfare in the Peninsula, the main points of the battles which are borne proudly on our colours, the records of our expeditionary forces in Abyssinia or the Nile, on the North-West Frontier, in Zululand, etc., and the glorious deeds of the Indian Mutiny.

It is held therefore that a certain amount of military history should form part of the military education of our officers.

In connection with military history there is the subject of military geography. An officer who has never served out of England in his life is suddenly ordered on service, say, in Egypt or South Africa. In nine cases out of ten he has absolutely no idea of the climate, the country, the tactics of the enemy, the transport or food difficulties, the language. The continental officer studies the ground, language and tactics of the nations whose frontiers coincide with his own, the officer of the Indian army has of late studied the features of North-West Frontier warfare in all its aspects, but the British officer at home studies tactics in a general way, and applies them, if at all, to an invasion of England—a country which, it may safely be asserted, is like no other country even in Europe where he may be called on to fight. It is not too much to expect that official text-books on each portion of our empire dealing with its physical features, climate,

ances and resources from a military point of view should be issued and a general knowledge of them required.

With these might be embodied the military history of the colony or dependency with a short tactical treatise. It has been said that tactics change every ten years, and therefore these books must be kept up to date and not be too dogmatic in their tactical teachings.

The Committee on the education of officers recommended that Examination in these subjects. there should be an examination on selected campaigns each year in which all officers should be required to qualify.

This latter suggestion would simply lead to the system of "cram" which is so much objected to as stultifying the reasoning powers. But it would be perfectly feasible to make general military history and geography part of the present (c)-(g) examinations under the sub-headings of (d) tactics, and also to hold once a year, an examination on a selected campaign at which officers should be encouraged to compete for some sort of prize or distinction, be it a money prize or a medal, or a claim to be considered for certain appointments. It would be desirable that the examination should not be confined to matters of fact, but questions be set chiefly with regard to the applications of lessons of the campaign to modern tactics.

(b) Are the examinations practical and is the standard of qualification a good one?

As regards (a) and (b), the question may be again answered in the affirmative. An officer's knowledge of these subjects is kept up to a great extent by their recurrence in his daily work. The standard of qualification could be raised without increasing the average marks of failures.

With subjects (c) to (g) it is very different. A great deal of the knowledge required is purely theoretical knowledge which the officer has no opportunity of displaying, and theories which do not present themselves to be tested, except on active service. Our system is to require officers to show a general proficiency in each subject by obtaining .5 marks. If an officer obtains 8 in any subject he is marked as distinguished in that subject, and an aggregate of .75 in the whole examination carries with its special certificate of proficiency.

This system is distinctly open to criticism. It permits and even encourages the average officer to be "jack of all trades and master of none." There is the very smallest distinction drawn between absolutely essential and possibly useful knowledge. For instance, a question for a line officer as to demolishing a bridge with explosives receives approximately the same marks as a question on the siting of shelter trenches and distribution of a company therein. It is thus possible for an officer to qualify in a subject by correctly answering questions

dependent on memory or doubtful data, while making egregious errors in matters of supreme importance in the field. That such cases do not often occur is no excuse for their being possible.

The business of the regimental officer is to train his men. "The training of troops is governed by what they are required to do in war." The regimental officer therefore must know thoroughly the duties which his men will be called on to do in war ; a general knowledge of them is not sufficient. The first step then is to discriminate between the essential and the non-essential. The essential things are those, of course, which bear directly on the work an officer may be called on to do any day on service, the non-essential are those which may come in useful occasionally.

Sketches of areas or positions, 1 mile square, form part of the examination in military topography.

Plane tabling.

How often on service is an officer required to sketch an area and how often are a plane table and accessories available ? What really happens is that the work is executed by a Royal Engineer officer, or if a battalion is ordered to furnish a sketch, by an officer who is a specialist in this line. No one will deny that it is essential for an officer to be able to give a fairly accurate sketch of a road or of the ground occupied by his section on out-post duty, but a great deal of the time now spent by officers learning fairly accurate plane tabling might well be devoted to more essential things. Accurate sketching should be left to Royal Engineer officers or others who show special aptitude.

Again the question of clearing copses of brushwood 5 years old is constantly asked.*

It is doubtful if such an operation would ever fall to the lot of a line officer on service, or if it should do so, whether the conditions would approximate to the data given in the Manual of Military Engineering which is based on one or two experiments carried out at Chatham, where copses are a feature of the country. Such questions are useless to the officer of the Indian army.

The question of visibility is another favourite one in examination.† It is certain that no one would ever attempt to fix the position of a sentry from a map of which the accuracy even is not vouchsafed. To be of any use in examinations as a test the question of seeing or not seeing usually hinges on a matter of a few feet. Such questions cannot be considered practical for the regimental officer. The argument is of course that questions of this sort are useful to teach map reading, but more practical methods in the field are advocated.

* Five times in the last five years in examinations for promotion in India.

† Questions relative to whether sentries could see certain ground from certain spots occur nine times in the last five years in examinations for promotion in India.

Other equally impractical questions are how to find the true north by the sun at noon, as laid down in the text book for military topography and how to ascertain the variation of the compass. Military sketching is based on such inaccurate data that a few degrees of error in the north point on a military sketch is of very little account. And lastly there is seldom a field engineering paper without a question relating to bridges or demolitions. It is very rarely that a regimental officer would be called on to carry out either operation on service without the aid of books. In these questions, as in questions relating to cutting down trees or brushwood, making gabions or obstacles, a great and useless strain is placed on the memory, for note books containing data would always be available on service, and even the officers with the most retentive memories would hardly care to trust them without every possible means of verification. The test in such questions should be rather one of time in applying the formulæ or data. But so long as these questions are asked so long will they be taught to the detriment of more useful study. What Prince Kraft said of inspections—"as troops are inspected so will they be drilled"—applies equally to examinations—"as officers are examined so will they be taught."

The above questions then may be condemned in the compulsory examinations of the regimental officer, firstly because they are non-essential and impractical, secondly because the data connected with their solution is often unreliable, and thirdly because they involve an effort of memory but as no officer can claim to be versed in the theory of these subjects without being able to answer such questions, they should certainly form part of the modified second paper for all officers referred to hereafter.

Another point in connection with the practical aspect of (c), (g) Ground for practical examinations is the choice of ground for the sketch, and for the reconnaissance and military engineering schemes. The examinations take place at the end of the garrison course, by which time the country for miles round is known to the candidates who have attended the school. Other candidates also probably come on leave before the examination and study the ground. The test is thus deprived of much of its value. Officers are sent at Government expense long distances for courts-martial and committees. Surely a little money might be spared to make these examinations realistic. The board and candidates might easily go to new ground 20 miles out of a station by rail.

As regards tactics, in contradistinction to military engineering and topography, a very high standard is required. Tactical problems present themselves daily in the field to every officer. It is through the neglect of some tactical precautions that disasters occur in the field, not from ignorance of some topographical problem or of some engineering device. Tactics is the study to which military engineering, topo-

graphy, and organisation are the stepping stones. These latter subjects are so to speak, the 3 R's of the military art.

But even as a man may be successful in politics, commerce, or at the bar, whose writing is well nigh illegible, and to whom the cube root is an unsolved mystery, so may a soldier be a great commander who cannot sketch accurately a square mile of country, or determine the variation of a compass. Hence all that is necessary for the regimental officer is to thoroughly understand those parts of the 3 R's on which the study of tactics depends.

No officer who shows in examination that he has failed to grasp the principles of rear-guard fighting, or of occupying a defensive position, or of selecting a camping ground, or defending a village, should be allowed to qualify for promotion regardless of his proficiency in road reconnaissance or the construction of bridges.

Thoroughness in essential matters—the matters which spell success or disaster to troops—should be the aim.

As regards tactics there is little doubt that, as the British officer is called on to serve all over the world, his tactical studies should not be confined to one particular theatre of war or description of enemy. Every officer should be examined both in civilised and savage warfare. This is done in India, where military education is far in advance of that at home, but in England the only tactical problems ever submitted for solution deal with civilised troops in English country.

Organisation and equipment, subject (g) in the syllabus, has been treated above as one of the three military R's or stepping stones for the study of tactics. It is not thus regarded under our system. The majority of the questions hinge on the memory for solution, and the subject thus becomes a pure matter of "cram." Both in peace and in war statistics are not in practice a matter of memory. The note book is always called on for reference or verification, until repetition renders this unnecessary. It is true that it should not be necessary for an officer to refer to his note book to say how many rounds of ammunition his unit carries, or to detail the general composition of an Indian division of all arms, but what object can there be in compelling officers to commit to memory the weights of tentage and baggage on the winter and summer scales, or the daily ration of a camel or donkey, or the duties of an officer left in charge of the depot of his unit?

It is advocated, therefore, that the examination in this subject should consist of two parts:—the first without books, on subjects of general importance, the second with the aid of books, on the lines of a small scheme. The latter would approximate to the work an officer might be called on to do on service.

The question of whether there should be an examination in law without books has been often discussed.

Law examination.

The Committee on Education recently recommended that there should be no law examination without books. This view is not upheld. Two factors enter into military law one being principle, the other regulations or hard-and-fast rules. Officers on a court martial must know by heart certain principles *e.g.*, that hearsay is no evidence, that drunkenness is no excuse, with whom the burden of proof rests, etc., otherwise, unless the question is raised, there is every chance of illegality creeping in. Questions of the proper constitution of a court, the wording of a sentence, the powers of a court, are all matters governed by hard-and-fast regulations and are invariably verified from the book. Matters of daily occurrence, such as the powers of commanding officers, when prisoners may demand evidence to be taken on oath, etc., should also be answered without the aid of books, but to be practical there should be no questions of an unusual character. Nor in the examination with books should catch questions be asked, or questions which in practice would be referred to the judge advocate-general. The object should be to make officers sound lawyers in ordinary cases.

The only noticeable point in the examination for tactical fitness

Tactical fitness examination.

in connection with the practical point of view is the rareness with which the regulation that "the test in the field should, when possible, be applied on ground with which the officer is not familiar" is complied with. Here again the test is deprived of much of its value. If the syllabus of examination in (c)-(g) proposed below were adopted subject (i) in this examination, *i.e.*, map reading, would cease to be necessary.

(c) Should the candidate be allowed the choice of when to present himself?

The present system allows the candidate to choose his own time to present himself. The examinations are held at the termination of the garrison classes. These two facts added to the nature of questions asked favours the system of "cram." Yet it would be unfair to order an officer to present himself at any time for an examination such as the present one since so many questions hinge on the accurate remembrance of data, formulæ or portions of the Field Service Manuals.

The Committee on Education recommended that each officer should pass the examination twice in each rank, and that he should be liable to be called on to pass the examination at any time. A board of field officers was to travel in each district at home in the summer to conduct the examinations. There is much to be said for the latter portion of the suggestion, inasmuch as examinations would be more uniform and better conducted, and a great burden be lifted from the shoulders of regimental officers who now have to sit on these boards in addition to their regimental duties.

If the system advocated in the preceding pages were adopted, it would be perfectly fair to require officers to present themselves for examination in the essential part (70 per cent standard) of the written test with a month's notice; since "cram" questions do not enter into this test. These, as well as the examinations with a lower qualifying standard, could be held at regular fixed intervals as now, and officers might choose their own time to present themselves for the latter. But for the out-of-doors examination an officer should not be allowed to choose the time of presenting himself. He should be given a month's notice and required to pass twice as a subaltern, once in his 4th year, and once later; and once (or twice if necessary) before being allowed to present himself for the "tactical fitness" examination.

(d) Are the examinations uniform?

The garrison course in England lasts 21 working days, in India about 45; in India 5 in both practical and written examinations is required, at home 5 in the aggregate is sufficient, in India all candidates are required to sketch a square mile of unknown country, in the examination at home the candidate brings with him for the satisfaction of the board a similar sketch executed in the vicinity of his station under often nominal supervision. Again, the papers at home consist more of book questions and are less practical in ascertaining that officers can apply their knowledge than in India. Finally, at home the subject of savage warfare is ignored. The examination at home is altogether so notoriously easy as compared with that in India that officers belonging to units in India even take advantage of long leave to qualify for promotion. There is little doubt that the Indian examination is the more practical of the two, and considering the constant interchange of officers of the British service between the two countries, it is but right to expect a similar standard at home.

It is now proposed to outline the suggested examination in (c), (d) and (g).

IN DOORS.

Outlines of suggested syllabus. (c) *Military law*.—70 per cent. in both papers.

1st paper (without books). The law of evidence. Certain regulations and rules of every day application.

2nd paper (with books). As at present, but excluding all catch questions and questions on abstruse points.

(d) Tactics.

1st paper 70 per cent. Two schemes as set at present in India, one in civilised the other in savage warfare. Each scheme to involve writing an appreciation of the situation and simple orders.

2nd paper, 40 per cent. General principles and theory of tactics.

Military history and geography.—One paper 50 per cent. The general physical features and military history of our colonies and possessions and their frontiers; the tactics of the enemies likely to be encountered how best met, transport difficulties, climate, and other special considerations.

***Military engineering.*—**

1st paper 70 per cent. General uses and principles of field fortification; working parties, remblai and deblai; different types of earthworks; principles of defence of localities, woods, hedges, walks, and houses, etc.; uses of obstacles; siting of trenches; general camping arrangements and expedients.

2nd paper 40 per cent. Bridges, demolitions, pumps, large earthworks, machicoulis galleries, inundations, fougasses, etc.

Military topography.—40 per cent. Scales, plotting from field book; theory of contours; visibility; sections; reconnaissance of rivers and railways; tracing roads; making maps for night marching.

***(g) Organisation and equipment.*—**

1st paper (without books) 70 per cent. The general composition of divisions, brigades, and units; ammunition supply; transport used and loads carried in the field; scale of rations of officer's own arm; line of medical assistance; general mobilisation measures of officer's own unit; general principles of the convoy system on line of communication; train accommodation, etc., applied to officer's own unit.

2nd paper 40 per cent. (with the aid of authorised books). Working out a scheme based on a tactical situation (with a map) such as despatching a small mixed column; entraining a brigade; arranging a system of convoys on the line of communication, etc.

OUT OF DOORS.

70 per cent in all tests.

1st test.—Make a rough sketch of a position, place troops on it and defend it, in accordance with a tactical scheme.

2nd test.—Proceed to an unknown piece of country where a small scale map will be supplied. Enlarge map to 3" to 1 mile, and in accordance with a tactical scheme report on the road to a village, railway station, etc., at least 7 miles distant, and place detailed locality in state of defence.

3rd test.—Proceed to an unknown locality, enlarge a map to 2" to 1 mile, execute a road reconnaissance with a view to supplies and choose a camping ground.

4th test.—On any available ground where there is the necessary material every officer to be tested in practical military engineering, as follows :

To be required to carry out two of the following tests with a non-commissioned officer and 6 men picked at random from an infantry battalion to which the officer under examination does not belong. Make an obstacle, revet a portion of a parapet, construct a gabion, fascine or hurdle; make a field oven; destroy a railway without explosives; etc.

An objection may be raised to this scheme that most of the junior officers' time will be taken up in passing examinations and of the senior officers' time in sitting on boards for those examinations.

It is true that the out-of-door examinations will be longer and more frequent than at present, but the indoor ones will be very little longer. The latter can be conducted as at present. The best time to hold the practical examination would be at the end of manœuvres, when in country away from an officer's station. Whether a permanent board for each district be appointed or a local board, is a matter for discussion. The former is more satisfactory to the state and to candidates, the latter the more economical and has the advantage of brushing up the knowledge of the regimental officers composing the board.

If, however, these boards were held at the time of the manœuvres the deputy assistant adjutant general for instruction and a Royal Engineer officer (Sappers and Miners if possible) could be detailed, thus leaving only one regimental officer to be selected as president. There could be no objection to the deputy assistant adjutant general for instruction being on the board if, as would appear advisable, officers were not permitted to present themselves for the examination within 6 months of a garrison course.

The course of examinations will be found in the summary.

SCHOOLS AND CLASSES OF INSTRUCTION.

Schools are established not only to ensure a sound and uniform system of instruction and to give officers an opportunity to qualify as instructors or specialists, but also as institutions where the most recent theories and inventions can be tested.

There are only two compulsory courses :—

(i) Musketry.

(ii) The veterinary course for all officers of mounted branches.

The old dictum " Battles are won by the legs " has disappeared under modern conditions. A soldier is almost useless if he cannot march, but more than useless if he cannot shoot. A recent army order urges every regimental officer to become an expert with the rifle himself. There are three common criticisms on the recognised system of musketry instruction. Firstly, that to insist on an orthodox position on the barrack square and to ignore it in the field, is unsound. In reply it may be urged that every art must have a model, that the orthodox position is necessary for instructing recruits, and that if it were abolished the shooting of the army would rapidly deteriorate. Secondly, that any officer who dared to let his men be ignorant of the mechanism of their rifles would be held to be incompetent, whereas such knowledge does not improve a soldier's shooting, and he is expressly forbidden to take his rifle to pieces. The only answer is—" what is inspected will be taught." Thirdly, that the sitting position should only be practised from behind cover. It would hardly be possible in the open, on service.

The school of instruction in military engineering and topography is established at Chatham. One officer per unit is detailed to attend this course. He may be a volunteer, otherwise any officer is taken. Topography at any rate is a subject which does not appeal to every officer. Under the present system of detailing officers often without any regard to their natural aptitude or intelligence, the Chatham course of instruction approximates to that of a garrison class instead of an advanced course for specialists. In fact, many officers who are unable to pass their promotion examinations in these subjects apply to attend the school, and thus qualify by the back-door, so to speak. The ignorance of such officers keeps the would-be specialists back, and limits the scope of the instruction given. It is therefore advocated that there should be two classes, one for elementary and the other for advanced instruction. Militia and direct commission candidates would benefit by the former. In military engineering especially is it the case that an ounce of practice is worth a ton of theory. Nothing impresses on the mind the difficulties, method, etc., of field engineering, from constructing a parapet or gabion to blowing up a

wall, than actual personal work. Every officer should go through a course about his fourth year. The field works ground at most garrison class centres consists of a few square yards round the school. There is no school in India similar to that at Chatham. This want is badly felt and it is advocated that not only should there be field works grounds with materials set aside in all large stations, but that schools of military engineering and topography should be established at Roorkee, Bangalore, and Poona. This could be done with little extra expense. Selected officers should be sent to the advanced course at the latter, after passing a qualifying examination. Such specialists would form a useful reserve to Royal Engineers on service, and might be put in charge of the field works grounds at their stations, a small staff salary being allowed.

The official text book of military engineering is the *Manual of Military Engineering*. Military Engineering produced at Chatham. It deals only with home conditions and deduces data from home experiments. A knowledge of the employment of withes is of no use in a country where bamboo is the only substitute. Either a chapter should be inserted into the manual, or an Indian addendum to it published, dealing with tropical vegetation as applicable to field engineering, e.g., the hardness of mango as opposed to babul, the possibilities of bamboo, or the uses of prickly pear as an obstacle.

Schools of instruction in signalling are established at Aldershot and at centres in India. A qualifying test is required from all officers attending them. As the course progresses any officers found to show inaptitude are remanded to their corps. The Morse system of signalling requires not only quickness of eye, and a certain natural, almost musical, aptitude for rhythm, but also incessant practice. It is essentially a subject for specialists. At the same time it is very desirable that every officer should be able to communicate visually with other troops. Semaphore signalling is simple and easily learnt and it is advocated that every officer should attain a reasonable proficiency in this subject. To do so he need not attend a school. Regimental instruction is sufficient.

Riding classes are held at all stations where mounted troops are quartered. The conditions of modern war have rendered control in advanced guards, etc., very difficult for dismounted officers, and in peace time a company cannot be properly instructed in the field on foot. The development of the mounted infantry has also brought the subject of riding for infantry officers much to the front. On service horses are over-worked and underfed. An officer should therefore be a good rider not to keep his seat on a spirited animal so much as to be able to cover long distances without fatigue either to himself or his animal. It is advocated then that riding in every form should be encouraged, and that every infantry officer should pass a test in riding within three years of being gazetted. For infantry officers correctness of position, etc., should not be insisted on.

Gymnastic schools are solely to train officers as superintendents of gymnasia. Classes last six months
 Gymnastic schools. and volunteers only are detailed. Gym-

nastics are not usually necessary for the British officer, thanks to his up-bringing, but he must understand the principles on which exercises are based in order to properly supervise his men.

There was originally one mounted infantry school, *i.e.*, at Aldershot. Recently, however, schools
 Mounted infantry schools. have been established in India, at each of which four classes are trained annually. The question of separate mounted infantry battalions versus battalions and companies composed of sections from different corps is beyond the scope of this essay to discuss. But in view of the nature of mounted infantry duties in the field it is probable that casualties will be heavier than in other branches, and it is thus desirable to train as many officers as possible.

A course of instruction in judging provisions is held at Aldershot.
 Judging provisions class. This knowledge is not of much use on service, but of much importance in peace, and as such every subaltern in the British service should go through a course. This would necessitate classes being formed in India, but little extra expense would be incurred.

LANGUAGES.

The only compulsory test in languages for regimental officers is
 European and Oriental languages. the higher standard in Hindustani for
 ges. officers of the Indian army. Money rewards are obtainable for proficiency in Russian and numerous oriental languages, but not for European languages. Officers who pass examinations in the latter are recorded as "passed" or "interpreters," the only inducement being a chance of employment in the event of a war. The home authorities safeguard their lists by requiring interpreters to be re-examined in colloquial every five years. The Indian Government are more liberal in their conditions. An officer who has passed the higher standard in Hindustani is officially regarded thereafter as qualified, even though, as sometimes occurs in the British service, an officer has been out of the country for ten years. It is open to any officer with a taste or gift for oriental languages to make a small income out of rewards. No one grudges an officer the harvest of his labors, but it would appear purposeless to take no advantage of such talent. A British service officer, however, though an oriental polyglot, still remains a British regimental officer. It would be as well to find a field for these specialists while removing an inducement to study languages to the detriment of regimental work, or to limit rewards other than for Hindustani to officers of the Indian army, and to devote the sum thus saved to purchase of extra ammunition.

WAR GAMES.

If there is one method of instruction which commends itself to the British officer less than another it is the war game. Not only is it difficult to manage, but so slow that onlookers soon lose interest. The real value of it appears to be in the preliminary dispositions and writing of orders, but this might be done equally well from a map. Theoretically the war game should prove admirable; in practice it is a failure.

TRAINING.

King's Regulations, paragraph 1058, says:—"The training of troops in peace is governed by what they are required to do in war." This is the motto which the regimental officer should have before him. But in his efforts to attain efficiency he is confronted by many obstacles. The Times History of the War, page 36, draws a vivid picture of the regimental system as it existed prior to the Boer war. Since then many admirable reforms have been introduced, but the regimental officer still suffers from such evils as lack of incentive to work, insufficient men to train and restrict manœuvre grounds, short allowance of ball ammunition, waste of time in matters of regimental institutes and boards of survey, and in the British infantry lack of responsibility for subalterns. In considering reforms it must be recognised that so long as the army is voluntary and under the real control of a party politician, the possibilities of improvement are limited to a rearrangement of the pawns on the boards, and to "robbing Peter to pay Paul."

The subject of the training of the regimental officer may be discussed under two headings—

- (i) Training with troops.
- (ii) Training by means of lectures, schemes, and reconnaissances arranged for regimentally.

TRAINING WITH TROOPS.

Under the present system, which has been in force for about 18 months, commanding officers of units, squadrons, and companies are responsible for the efficiency of their commands. The squadron and company, not the regiment and battalion, are recognised as the true tactical units. The ability to instruct and lead his men and keenness in musketry will influence the regimental officer's prospects of promotion.

Thus the first two steps forwards efficiency, *i.e.*, decentralisation of command and an inducement to work are gained. There is, however, a flaw in each of these provisions. The decentralisation does not, in prac-

tice, descend below the company commander in the British infantry, nor does special capacity for instructing and leading men carry aught more to the officer possessing it than a promise that he will not be passed over for promotion. The suggested remedy for the former is the introduction of the double company system, which will be discussed later. For the latter, special selection is advocated. If it were possible to make officers who showed special ability in regimental work into staff officers the problem of special selection would be easily solved, but capability in the one work does not imply capacity for the other. Special selection is exercised in the appointment to second-in-command, but it is in the lower ranks that it is proposed to introduce it, and where it would offer an inducement to work. The very great discrepancy between the rates of promotion in different corps of the British service is very noticeable, and it must react unfavourably in some cases on the efficiency of the service. The captain of 20 years' service is apt to get soured while the captain of five years' service brings but little experience to the training of his company. It is suggested that an average be struck annually of the rates of promotion in the British cavalry and infantry to the ranks of captain and major, and that officers who will attain that average during the ensuing twelve months shall be permitted to register their names for extra regimental promotion if recommended by their commanding officers and by the general officer commanding, and that no officer with less service than the average shall be promoted in his own corps (except on service) so long as specially selected officers are willing to accept promotion. If this suggestion were adopted a real inducement to work would be preferred. The dislike of an officer to leave his own corps is rapidly dying out.

It is evidently useless to make an officer responsible for the training of a body of men, unless that body is placed at his disposal. At home the year is now divided into a training period of eight months, and a non-training period of four months, when furlough is permitted and instruction confined to special subjects not requiring extensive manœuvre grounds. In India and abroad such a definite division is not possible owing to variations of climate. Thus it follows that in England the company or squadron commander has his men at his disposal for 36 days either consecutively, or for three days a week during 12 weeks, and the commanding officer has his unit similarly for 18 to 24 days consecutively, or for 3 days a week during six to eight weeks. In India squadron training lasts 28 days and company training 21, but no fixed time is allotted to regimental or battalion training. Even at the time when a company officer in a British regiment has his men at his disposal, the fact that his total strength amounts to about 70 men at home and perhaps 90 in India, limits the amount of instruction. With so small a force it is difficult to give that realism which is so necessary to arouse interest, and which can only be effected by the provision of an enemy. It is waste of time to reconnoitre unoccupied country or to attack unheld positions. If the disadvantages of small companies are felt when all the

men are struck off duty how much more is it the case during the rest of the year? The futility of carrying out any useful exercise with 30 trained infantry soldiers is well known. By the adoption of the double company system in the British infantry, the difficulty of paucity of members would be partially obviated. It can never disappear entirely until the employments which take men away from their military duties in order to save the public purse are handed over to reservists, pensioners, or civilians, the advisability of which is beyond the scope of this essay to discuss.

One of the chief accusations levelled against the regimental system is the time spent in non-military system is the time taken up in duties not directly connected with military training. Under the present system a good deal of time is wasted in such work as sitting on boards on small losses or small consignments of stores, in waiting at the orderly room, or in business connected with the regimental institutes.

The number of officers on most boards could be reduced to two. The delegation of more extended powers of punishment to officers commanding squadrons and companies would save time now wasted at the orderly room, though this is generally exaggerated. This delegation could only be granted to commanders of double companies. It would not work with eight small companies, half of them commanded by subalterns. The introduction of the tenant system into the regimental institutes at home has removed a heavy burden from the shoulders of the regimental officers, and with proper safeguards it would prove a success in India. There is no economy effected by saving time which is now devoted to the inspection of rations, cook-houses, barracks, etc.

The time taken in paying men and checking accounts is a long standing grievance of the regimental officer, but one often exaggerated. It is not proposed to enter into this question.

To reduce the number of returns and reports is difficult. The junior regimental officer has no real complaint on this score. It is too large a matter to discuss in this essay, but if the principle of only calling for information when wanted and not of requiring periodical returns were adopted much labour would be saved. The majority of returns however are connected with pay and equipment and cannot be avoided under the present system.

In conclusion it may be said that it is useless to reduce the number of strictly non-military matters which occupy an officer's time, unless opportunities and facilities are given for employing the hours thus gained in really valuable exercises. This leads to the discussion of the remaining factors of exercises, ground, and materials which influence the training with troops of the regimental officer.

The handling of arms and ceremonial drill is now reduced to the minimum compatible with discipline and steadiness and the present system aims at the maximum of exercises in the field, which are the real preparation for war. Two things militate against the time thus made available for field exercises being utilised to the fullest extent:—

- (i) the want of manœuvre grounds close to the barracks,
- (ii) the soldier's meal hours.

Economical moves and recruiting requirements still keep troops at home in towns from which they might well be withdrawn in these days of efficient police control and railway facilities. In India and abroad economical motives influence the quartering of troops, though the actual necessity for troops in towns is gradually decreasing. Thus efficiency is checkmated at the start by outside considerations.

The proposal to canton practically the whole British army in the hills, and to bring them down to the plains during the cold weather to big concentration camps, is very acceptable to the military enthusiast, but out of court as far as practical suggestions are concerned. In South Africa, however, which is a white man's country in the matter of climate, where we are not already tied down to barracks, and where perhaps the best manœuvre grounds in the world exist, we have an opening which it would be criminal not to seize. The "Times" in a series of articles has recently advocated the bulk of our forces being kept in South Africa, which in addition to other advantages has the merit of being centrally situated with regard to the empire. In England two new training grounds have been acquired during the past five years, *viz.*, Salisbury Plain and the Peak District. These answer well for recruits, but for trained soldiers fresh country is essential and there are only four large manœuvre areas in Great Britain. An officer knows every inch of a manœuvre ground similar to those at home within 3 months. By varying forces and conditions such areas provide useful lessons for a year possibly. Economical motives again preclude very frequent changes of stations in order to vary the country. Three years is the average stay of the unit in a station. There are some regiments, especially in the Native cavalry, that have only three stations on which to ring the changes. Troops are therefore practically tied down to ground in the immediate vicinity of their stations except for the annual manœuvres. But out of England there is no reason why this should be the case. It is suggested that the country round a station for a radius of perhaps 30—40 miles should be divided into areas and one area be devoted each year to minor manœuvres.

It would be possible in this way to vary the ground annually. The only considerations to be weighed are civil objections and water. Little inconvenience would be caused to the civilian

population as their land only would be visited once every 5 years or more. The shooting tenant makes this suggestion impossible at home. Manœuvre grounds would probably lie 15 to 30 miles say, to 3 marches out for infantry. Intermediate camps could be established to minimise transport expenses. Squadrons and companies at training would spend most of their time out on such grounds.

Good manœuvre grounds constantly lie within 5 or 6 miles of a station, but are only visited occasionally on field days on account of the

Soldier's meal hours. time taken up getting there and back, and thus upsetting the soldier's meal hours. Until we get some sort of travelling kitchen such as is used by the Russians it would be a good thing to establish a permanent coffee shop tent during the drill season in such places.

New ground is not only valuable to teach officers the difficulties of grasping the features of the country with a view to moving troops under cover or selecting positions, but for the practical musketry training of their men. Musketry may be divided into 3 classes:—range shooting for teaching marksmanship, snapshooting at short ranges which Lord Roberts thinks will probably decide future battles, and shooting at unknown ranges in the field.

The first two can be conveniently carried out near cantonments abroad, snapshooting being practised of course at unknown ranges. But the third not only requires a large area but new ground. These exist all over India within a few miles of military stations low laying hills, with deep re-entrants. The valleys are usually cultivated and the hills grazing ground.

These form ideal practice grounds for musketry. Surprise targets must of course be used. The placing of these targets alone constitutes a good military exercise for an officer. These invaluable practices are served by the use of the surprise targets :

- (1) Keeness of vision.
- (2) Judging distance.
- (3) Marksmanship.

Under the present system training with surprise targets and ball ammunition is carried out by companies, battalions, brigades, and even divisions. In the two latter cases it is hard to see what is gained by using ball instead of blank. The soldier, the company, and even the battalion gains no knowledge as to the fire effect he or it has produced. It would be better if the ammunition thus used were allotted to company officers. What is required is that a company or less even should advance up a valley with the knowledge that an enemy may be met. This keeps the eyes of all ranks strained to see a target. There must be a director of the prac-

tice who walks with the officer commanding the company. On a target being sighted by the scouts and reported to the officer commanding company, the latter decides whether he will open fire; when he does so the ranges are carefully noted. The "cease fire" is then sounded, and the actual distance is paced by an officer and a man.

If the targets are placed on the slopes of the hill in the position which an enemy would probably take up, the fact of measuring the distance to a target on a flank gives us a clue to the range of the next target sighted. Though it is better to have ball ammunition for the practice it can be usefully executed without blank. The real point is that each man shall know on the spot how correct his estimate of the distance has been. Even with company field firing the ranges are usually not known after the practice is completed and the accuracy of judging distance and aim can only be gauged generally by the results.

The proposed system of surprise target practice involves perhaps a departure from the recognised scattered extensions in order to allow more men to practise firing.

Another useful practice is to march a company out to an entrenched or "sangared" position in the dark, and to open fire when it gets light on different surprise targets. In this case of course the distances are already measured and can be communicated to the men at intervals from a marked sketch.

Surprise targets can be cheaply made with wire and old canvas and tape and require no expensive outlay. Looking glasses to reflect the advance can be used by the men pulling the strings. Not to discover a target will prove bad scouting. On service marches a

few hours before daylight in order to be in position to attack an enemy at dawn are often resorted to, but this exercise is not sufficiently practised in peace. Such marches of course take place in the annual manœuvres and once or twice during company training, but it is urged that these marches over unknown country by the aid of a map or on a compass bearing shall be constantly carried out by officers.

For this purpose only a few men are required, and these practices could well be executed when not at field training. They are of course irksome, but what profession exists that does not entail irksome work to ensure proficiency? The more professional the army becomes, the more pride will all ranks take in their readiness to meet any contingency that may occur.

The value of manœuvres on a large scale to regimental officers has often been questioned. The difficulty

Manœuvres.

is to reproduce the effects of bullets. Umpiring, which attempts to do this, requires more attention than is given to it at present.

The cavalry have two exercises, the long reconnaissance and the chart and compass practice, which Proposed tests in the field for infantry. test an officer's ability to rapidly reconnoitre country, to march on compass bearings and to locate an enemy. There is however in the infantry no recognised practice in the essential duties of an infantry officer, *e.g.*, moving troops across country under cover to arrive at a certain point within a certain time, or stalking an enemy. Both these practices could be usefully carried out under conditions which any officer could frame. As regards the chart and compass practice one point may be noticed. Only half an hour is allowed for reconnoitring sketching, and reporting on a position. This is manifestly absurd, and it would be as well to leave this exercise out of the practice altogether.

It is the practice to attach infantry and cavalry officers to artillery practice camps. This is undeniably sound, but it would be as well to make one attached officer each day report on where he would place his escort, were he in command.

The materials which the soldier requires for his training are few. The great want is more ball ammunition so that there shall never be a week in the year during which a man does not fire his rifle. No week should pass either without his digging. Both officers and men require practice in spade work, the officer in estimating how long it takes to dig trenches in particular soils, the man in constructing a trench which will give cover and a parapet over which it is possible to fire with comfort and safety. It is very difficult to execute "book" trenches. The data are unreliable. Every manœuvre ground would give different results.

It might be held by some to be outside a regimental officer's work to instruct his men how to make chupatties, or kill a sheep. There is no doubt, however, that the men ought to know how to do these things, and a knowledge of them must add to an officer's power to influence his men. Nothing which makes for the health, comfort or efficiency of his command should be beneath the attention of the officer commanding a squadron or company.

In the foregoing pages the double company has been put forward as a panacea for many of the evils from which the British infantry suffer. The double company. As long as the present small companies exist it is impossible to decentralise within a company. There are seldom two subalterns in a company in India. At home, where the complement is 12, it is evident that the system of having a subaltern permanently in command of each half company is impossible. Subalterns are constantly changed from company to company either to take command temporarily or to work under a senior officer instead of a junior one.

The subaltern of British infantry never really has a responsible command, and the lack of this is a bad training for developing character. The double company system with four subalterns out here and three at home would allow of a subaltern's having permanent charge of 100 men. It would also favour continuity in the command of a company, give the company officer four subordinates instead of eight, allow of more training and that more realistic, and obviate the danger of very young captains commanding companies.

TRAINING BY LECTURES, SCHEMES, ETC.

The theoretical instruction of officers out of the drill season by lectures, schemes and reconnaissances is carried out under the supervision of the commanding officer.

The value of the work done depends entirely on the interest shown by this officer. The sketches and reports are, however, usually looked on as irksome work to be got over. Though submitted to the general officer commanding for inspection they are often returned with a few general remarks some months after their completion, when the officers who executed them have almost forgotten their existence.

To be of value the reconnaissance work should be closely criticised at once, and repeated if necessary. In most corps, schemes are set weekly and lectures given. It does not fall to every man's lot to be able to lecture well or even to correct a scheme capably. The result is usually that no interest is shown or instruction gained from either. It has been said previously that teaching and lecturing are gifts, not arts lightly acquired.

To make regimental instruction really of value two suggestions are made—

- (1) to reduce schemes and lectures to one of each a month, when they might receive more attention, or
- (2) to appoint a really capable regimental officer as regimental instructor on a small staff salary.

THE STAFF OFFICER.

Staff officers may be classified under the headings of head-quarter, general and personal staff. It is proposed to deal only with the first two categories.

King's Regulations, paragraph 217, lays down that no officer will be appointed to the staff as deputy assistant adjutant general or brigade-major, who has not previously passed through the staff college, or been trained in the army service corps, except officers holding the rank of lieutenant-colonel and all officers of proved ability on the staff in the field. This regulation is strictly adhered to in England, but in India it is a dead letter. All that is required here is to have qualified

for the rank of major, and to have passed the higher standard examination in Hindustani.

So long as these conditions obtain, officers in India will not go to Camberley. The examination for the staff college is competitive and imposes an intellectual strain on the majority of officers who have generally neglected the study of mathematics and modern languages for ten years or more, and who have probably never been taught military history and geography. Consequently an officer is compelled to go to a crammer, which imposes a strain on his purse. Should he succeed, the staff college means two years of regimental pay with extra expenses. The officer of the Indian army also extracts little direct value out of Camberley, as the work there is all based on home conditions. It is moreover waste of time for an officer who wishes to get on the staff in India to obtain a staff college certificate. It takes nearly three years, and at the end of that time he is not officially permitted to accept staff employment until he has been with his unit for a year. A smart regimental officer can become a deputy assistant adjutant general within two years in India by the simple process of registering his name and taking a minor staff appointment to start with. Lastly, all officers at Camberley are reported on periodically by the commandant and professors, and the final report based on these will, if it damns with faint praise, place the unfortunate officer in a worse position than if he had never been to the staff college. The officer appointed direct to the staff in India has no such severe test. Small wonder, then, that officers who desire the Indian staff will not try to obtain the Camberley certificate.

The question now arises whether staff education and training are necessary, or at least desirable for officers employed on the staff. It is impossible in this instance to judge by results. Many staff officers who do not possess the staff college certificate are as capable as those who go through Camberley, while there are many among the latter who do not make good staff officers in spite of their training. The real question is whether an officer who has the general qualifications which suit men for the staff, makes a better staff officer for being able to devote himself for a certain time to the exclusive study of his profession. There can be little doubt that the answer is that it is desirable, but whether it is necessary may be discussed.

Unfortunately the staff officer's work in peace differs widely from his work in war. The higher the staff on which he serves the more removed is he from contact with troops. Office work, routine or administrative, occupies the bulk of his time. The result is that an intimate acquaintance with regulations and a grasp of an unessential detail are of more value than sound views on tactics or capacity for reconnaissance. The staff officer on the army head-quarters or general staff has little time to study his profession. Consequently,

unless an officer receives staff training before being appointed to the staff, there is little chance of his ever learning his profession thoroughly. The only equivalent to staff training is service on the staff in the field and even then an officer with previous staff training is likely to profit more than the officer who has never studied the art of war, as he views operations with a broader mind and draws sounder conclusions. In support of this contention it may be noted that it is now laid down in the staff college regulations that officers below the rank of lieutenant-colonel or second-in-command shall, if opportunity permits, undergo the 2nd year's training at Camberley. In India, so long as the fighting is restricted to small frontier expeditions, the necessity for officers trained in staff duties in the field is not felt. But the strain of a war with Russia would reveal our weakness. Staff officers whose time is now occupied with moving troops by well worn routes, by numberless questions of discipline, accommodation, etc., would find themselves called on to prepare a map for a night march, reconnoitre a position instead of criticising the efforts of others, entrain a brigade, map out a railway junction, arrange a concentration of troops in an unknown country, and other tasks which require not only special instruction but constant practice. Officers on the general staff do a certain small amount of such work now, but there is usually no time limit, nor are errors brought home in the same forcible manner as on service. The difference of comfort to troops well or badly staffed is enormous; and comfort often spells fighting power. The more an officer has studied his profession the more is he likely to make for improvement not only in his own attainment but in the matters which enter into his work. It is held therefore that in view of eventualities it is not only desirable, but actually necessary, that every staff officer should either hold a staff college certificate or have passed an examination in staff duties.

The number of staff officers required in the army is too large to admit of Camberley graduates only being employed unless the college is enlarged. There are two other alternatives—

- (1) to have a staff college in India;
- (2) to institute examinations in staff duties.

Prior to discussing these proposals it will be as well to review the present system of selection for Camberley and of the training while there.

Before an officer is allowed to compete for the staff college he must have five years' service, be on the selected list of officers kept in his corps, be an officer whom the commanding officer would select as his adjutant, ride well, and possess various qualifications which would fit him for a staff officer. As such his commanding officer recommends him to the general officer commanding district. The latter if satisfied that the officer is a desirable candidate attaches

him to his staff for one month and if he then approves of him, causes him to execute a sketch of a square mile of country in 6 hours. It might be considered that with these safeguards it would be impossible for an unsuitable officer to go to Camberley. But commanding officers with a contempt for the staff college or bad judges of character have been known to sign misleading reports which the period of attachment to the general officer commanding's staff has been too short to correct. The attached officer is never given responsible work. The sketch is a farce. The examination for the staff college is a stiff one, and if it serves no other purpose, proves at any rate professional keenness and a capacity for hard work. Many methods in lieu of these competitive examinations have been suggested, such as special nomination only, or a species of competition for which service on the regimental staff, war services, stars in promotion examinations, and language qualifications should be counted, and only a qualifying examination in mathematics and an European language demanded. In defence of the present system it may be noted that one-fourth of the vacancies at Camberley are already filled by nomination for which service on the regimental staff or war service is a *sine qua non*, that intellectual qualifications are specially needed on the staff which would not be ensured by these proposals, and that if a certain number of vacancies were not thrown open to general competition many officers as deserving at least as those now excluded would get no chance, for war and regimental staff service are both influenced by luck. The present system of admission by competitive examinations is therefore upheld.

It is not proposed to discuss in detail the course of study at Camberley, but a few points may be criticised. Firstly the course lasts two years, which is considered too long. Two years of theory and paper work, of lack of responsibility, of loss of touch with troops, are rather apt to damp the ardour of the most enthusiastic, especially as the first year is mainly devoted to a repetition of military studies such as topography and law, which are comprised in the entrance examination, and to riding. Six weeks' riding school will not teach men over 30 to ride well if they cannot do so before. Riding should be treated as a special subject, importance being attached to it and opportunity given to those who wish to improve themselves to ride daily during the year if desired. All officers are put through a course of sketching regardless of their proficiency in it. It should not be necessary to teach officers to plane table at the college. As the entrance examination is held all over the world, it is manifestly impossible to allot marks to a plane table sketch, but the difficulty could be combated if the system of school of military topography advocated in this essay were adopted, by requiring every officer except Royal Engineers to produce a 70% school certificate gained within six months of the forwarding of his application to compete. Whether a knowledge of plane tabling is necessary to a staff officer is questionable, but it should not be beyond the power of any officer to acquire it. The only point is that the hours

now spent in making ungifted officers fairly expert should not be taken out of their valuable time at Camberley.

Secondly, the every-day routine work of a staff office is not taught at the staff college. Excellent general lectures are given and schemes in all sorts of staff duties worked out, but graduates often leave Camberley with very hazy notions of how to conduct official correspondence. There is no reason why specimen files should not be employed to teach officers, but even this would not be necessary if the system advocated below were adopted.

Thirdly, officers are attached for 6 weeks in each year to the two arms other than their own, or if Royal Engineer or Army Staff Corps officers for one month to the three arms. It is suggested that this should take place before an officer is attached to the staff of the general officer commanding, *i.e.*, before competing. Again King's Regulations, paragraph 1245, lays down that officers who have been through the staff college may attend a class in A. S. C. duties, but this is rarely done. It is incredible that such should be the case, considering how much the work of a deputy assistant adjutant general is bound up with supply duties. It is advocated that every candidate for the staff college should be attached to the staff of the general officer commanding. With this experience, the candidate should form a supernumerary member of the district staff for six months. Here he would learn the routine of office work thoroughly, for it is also suggested that advantage should be taken of his presence to relieve the district staff of much routine work, thus enabling them to do more field work and to go on leave without pressure on others. The necessity of teaching routine staff duties at Camberley would thus be obviated. With much of the work at the college thus eliminated, it would be possible to reduce the time there to one year.

The preliminary tests for a candidate for the Staff College would then be:—

- (1) A 70% certificate from a school of military topography.
- (2) 6 weeks to the two arms or 1 month to each of the three arms.
- (3) Three months with the army staff corps or supply and transport corps.
- (4) 6 months to the staff of the general officer commanding district.

After each course the attached officer's capabilities and capacity for work would be reported on by the officer commanding unit to which attached.

On completion of his time on the general officer commanding's staff, an officer would be granted 6 months' leave to work for the entrance examination. This is necessary, otherwise officers

would not devote all their time to the study of the arms to which they were attached. An officer would be required to pass within one year of his leaving the staff of the general officer commanding. The number of the candidates would be necessarily limited to one or two per district, and an officer who failed would, if he passed a qualifying examination, be excused his written promotion test and be eligible for certain staff appointments, after passing an examination in staff duties. But in order to get the best men for the staff college, it would be necessary to reserve certain appointments on the head-quarter staff for Camberley graduates, as well as to give them a prior claim to ordinary staff billets. The regulation that Q. S. officers should attend the second year's course at the staff college, as opportunity permits, should be altered to make it compulsory for them to go to Camberley. This would, of course, restrict the number of vacancies for open competition, but any number up to one quarter of the total vacancies might be allotted to Q. S. officers. Under the suggested system no officer could be employed on the staff without a fairly thorough staff training and a certain amount of knowledge of the arms other than his own.

A regulation has recently been introduced into India that officers attaching officers to other arms may be attached to arms other than in India. their own for 6 weeks, but it involves extra expense without a *quid pro quo* in the matter of staff employment ; very few officers avail themselves of it.

A last criticism on the Camberley course is that all tactical schemes are worked out for a home army operating in England. At least one half of the staff college graduates hold at some time or another staff appointments in India or the colonies where transport is utterly different and where in many cases civilised tactical methods are useless. The professors belong to the British service, and, except for a scheme in connection with a Russian invasion, India is a closed book, and savage warfare schemes are not set.

It is advocated that an officer of the Indian army with practical experience of the North-West Frontier fighting should be appointed to Camberley. The work is sufficiently heavy for two professors of tactics.

The question of the advisability of an Indian staff college may now be discussed. The advantages claimed for it are, briefly, saving of expense to officers in India of going home and of crammer's fees, Indian methods taught on Indian terrain and encouragement of officers in India to qualify for the staff. Against it there are two objections—firstly, that the establishment of this staff college would lead to the formation of cliques ; secondly, that out here official thought is apt to become self-centred, therefore narrow and forgetful

of Imperial policy and needs. Imperial defence, the problem of recruiting, the provision of drafts, the volunteer and militia questions, even continental military thought, all these trouble but slightly the mind of the Indian staff officer. An Indian staff college would tend to minimise breadth of view. It has always been recognised at Camberley that students learn as much from each other as from the professors. It is desirable therefore to open more vacancies for the Indian Army. At present the number is 3. But if the scheme of staff training suggested above were followed, and it was made clear that the officer with superior qualifications would receive recognition, there would ensue much competition for the college, and the vacancies allotted might be increased to 9 out of the 24 open vacancies and three out of the 8 nominations. If the course were reduced to a year, and admission examinations held twice a year, the total output of staff officers per year would be 64. If it is really intended to insist on staff acquirements, this number cannot be considered excessive.

The objection to sending officers from India to Camberley is the score of expense, both public and private. The present allowance to officers of the Indian army at the staff college is £250 a year, which is insufficient. It might be increased to £300 a year, and all officers selected after the 6 months' service on the general officer commanding's staff might be sent home in transports. The dates of attaching officers might be arranged to fit in with the first and last boats, as it is probable that nearly every officer would go home to increase his chance of getting into the college. These passages can hardly be considered a heavy expense, as Government would have had the service of a staff officer free for 6 months. Officers who failed to pass into the staff college would have to pay their own way back on the termination of their leave. It would only be fair to second officers from the time they commence to be attached to other arms.

Money is able to purchase the advantages of superior teaching and training, and opportunities of travel and shikar. The officer with the purse will always have the pull over his poorer brother. Many a man in the British service has borrowed the money to go through Camberley. It is of course quite wrong that an officer should have to educate himself for the benefit of the state, but until our whole system of officer's pay is altered, this must be recognised as a necessary evil. The keen but impecunious officer will consider any monetary outlay in the direction of staff training as an investment, and it is the least the state can do to ensure that the investment shall be a sound one; which is not the case under the present system of allotment of staff appointments.

For those officers who had failed to pass high enough for the Proposed examination in staff college, but who had qualified, an examination in staff duties would be required and might comprise an advanced scheme of organisation

involving the movement of troops by sea, rail and road ; an essay on some such subject as recruiting or the formation of reserves ; a problem in Imperial defence involving strategy, reconnaissance on horseback, the making of a sketch for a night march, and such other subjects as are not included in the examination for promotion.

It has already been said that the officers in the general staff get little practice in the duties which they would have to perform in war. The annual manœuvres and staff ride, an occasional field day, these are the sum total of their training for war. The causes are two-fold—(i) there is no one to do the office work if the staff are constantly out on manœuvres, field days, etc. ; (ii) staff officers only attend field manœuvres when the general officer commanding attends them, *i.e.*, when he directs and it is impossible for the troops to be always out on field days, etc. But the system of making candidates for the staff college unpaid attachés in district offices would remove the first cause. Many staff officers would demur to handing over their office work to untried aspirants for the staff, but such must console themselves with the thought that both they and the state benefit in the long run. Really important matters could always be referred and mistakes only would be minor and not entail serious consequences.

The question next arises as to what field work the staff officer can turn his attention to. It is proposed that he should spend the majority of his time umpiring on small regimental and even company field days. He would usually be welcomed as an umpire provided he possessed that essential staff quality—tact. It is hard to teach umpiring ; constant practice is the only tutor. To be in the right place at the right time is of course the principal thing. But even then decisions are apt to be inaccurate unless the umpires know the terrain thoroughly. This is a particular fault of manœuvres as conducted now-a-days. Umpires arrive on the ground possibly a day before the troops. To be efficient they must know every inch of the ground, the best lines of covered advance, the possibilities of defensive positions and the ranges. A large scale map is most useful.

Staff officers also require practice in field staff work, such as reconnaissance with a range finder, memory sketches, estimating troops from behind cover at long ranges. The fact of having done such exercises a few times at the staff college does not constitute a claim to efficiency.

There is in India one staff officer who has time to study his profession unhampered by office routine, *i.e.*, the deputy assistant adjutant general for instruction. He is always working out schemes on paper, the only fault being that he is an oracle unto himself. There are of course many ways in which this officer can be usefully employed when not working with his classes (allowing him a reasonable amount of leave, for work is or ought to be hard while it lasts), but it is suggested that

he should lecture weekly or fortnightly during his cold weather recess on modern tactics, or on current military literature as evidenced in new books, pamphlets and journals. The deputy assistant adjutant general for instruction is really the only officer who has time to devote to such subjects, and the small amount of interest taken in military literature may be gauged by inspecting the issue book of any station military library.

No review of our system of staff training would be complete without a reference to the principle of making "A" and "B" duties interchangeable, and of apportioning the different staff duties among the staff.

Exclusive of the special services, *i.e.*, artillery, engineers, ordnance and medical staff, duties are divided into "A" and "B" duties. "A" deals with discipline and military training generally, "B" with the service of supply, transport and accommodation. These branches are administered by the general staff without reference to special training although at home officers of the A. S. C. are usually entrusted with "B" duties.

A junior staff officer first does "B" work as deputy assistant adjutant general, and when more senior may become an assistant adjutant general and perform "A" duties, though it sometimes happens that an assistant adjutant general has never been a deputy assistant adjutant general. This system of going through the mill, so to speak, ensures a thorough staff training. It does not, however, follow that an officer is a bad general because he is not brilliant at "B" work, nor that proficiency in the latter evidences capacity for command or more active staff duties.

Staff appointments last for three years at home and five years in India at the conclusion of which periods staff and regimental officers interchangeable. officers have to return to regimental duty for a time before becoming eligible for the staff again. This system has the advantage of bringing the staff into closer touch with the remainder of the army, and undoubtedly benefits both. But though there are many officers who are equally suited either to the staff or regimental work, there is a certain stamp of officer who loves the even tenour of office work and the difficulties and intricacies of administrative detail, and does not fight shy of long hours.

It is a mistake to send such officers back to their units, where they do no good and learn nothing which helps them in their special staff work, for the latter generally deals not with individuals or units, but with whole branches. It is advocated therefore that after a certain period, say three years in a deputy assistant adjutant generalship, an officer should elect either for permanent staff employment in the administrative branches of head-quarter offices, or for the active branch with a return to his corps. The pros and cons of the former would be permanent staff employment with good pay, but no chance of an active command, and of the latter the chances of active command and

high staff appointments but no certainty of either. It should of course not be left to an unsuitable officer to elect for permanent service in the staff; a recommendation would be essential.

SUMMARY.

The arguments and suggestions contained in this essay may now be summarised.

GENERAL.

Although common sense is the chief requisite for subordinate and indeed for all leaders, yet ignorance of military matters is not to be tolerated in officers who have to train an army composed of uneducated men.

Teaching is a gift, not an art; we require practical soldiers to teach our officers, not schoolmasters.

THE REGIMENTAL OFFICER.

The regimental officer requires to train his troops in peace for the duties they will have to perform in war. He must therefore have not only a sound knowledge of his profession, but a general knowledge of the different enemies he may have to fight, their country, climate, etc.

But our system does not ensure this, since the study of the military history and geography of the empire and its frontiers is not taught, nor do the examinations, which test an officer's knowledge, discriminate between really essential and generally useful knowledge. Further, the nature of the questions, and the fact that an officer can choose his own time to present himself, and that the examinations take place at the termination of the garrison classes, all favour "cram" to the exclusion of well-founded knowledge. The regimental officer's daily work does not entail keeping up the theoretical knowledge thus gained in classes, etc. Hence it is desirable to reform the system of examinations with a view to ensuring thorough knowledge of essential subjects, and in order that the knowledge gained shall not be merely temporary.

The suggested examination reforms are:—

1. The introduction of an examination in the military history and geography of the British empire and its frontiers. Qualifying minimum 50 per cent. To be held at the same time as 40 per cent. examination. Official handbooks to be published.
2. The division of the subjects (c)—(g) into essential (70 per cent.) and non-essential 40 per cent. examinations. The abolition of all catch and memory questions in 70 per cent. examination.
3. Every subaltern to pass an out-of-doors examination in the practical part of essential subjects, once in his 4th year, and once later. Captains to pass once, or twice if ordered. After the last test in the 4th year only one

month's notice to be given to an officer to present himself. No officer to be allowed to go up within 6 months of attending a garrison class.

4. Every officer to pass 70 per cent. examination once in each rank after being given one month's notice, not within 6 months of attending a garrison class.
5. Every officer to pass the 40 per cent. written examination at any time once in each rank.
6. All examinations in practical field work to take place in unknown country.

As regards military education and training apart from examinations it is suggested that :—

7. Every officer should go through a station course of practical field engineering, and that field works grounds should be provided at all large stations.
8. Schools of military engineering and topography be established at Roorki, Poona and Bangalore for the education as specialists of officers showing aptitude in either subject.
9. An Indian addendum to Manual of Military Engineering be published, or a chapter on tropical vegetation interpolated.
10. Every officer should learn semaphore signalling.
11. Every officer should pass a test in riding within three years of being gazetted.
12. Rewards for oriental languages other than Hindustani, be limited to officers of the Indian army, or a field be found for the linguistic talents of British service officers.
13. The double company be introduced into the British infantry.
14. Special selection for extra regimental promotion to the rank of captain and major be introduced into the British service.
15. Extended powers of punishment be given to officers commanding squadrons and double companies (if introduced).
16. The number of officers on ordinary boards be reduced to two.
17. The country within thirty miles of a station be mapped out into areas, and one area allotted annually for minor manœuvres.
18. Brigade and divisional field firing with ball ammunition be abolished, the practice carried out with blank, and the ball ammunition thus saved be devoted to company or squadron training.
19. Field exercises to test infantry be introduced.
20. The position sketch and report be eliminated from the chart and compass practice.

21. Regimental schemes be set and lectures given only once a month, or a regimental instructor on a small staff salary be appointed.

THE STAFF OFFICER.

Officers are appointed to the Indian staff without any previous staff training. This is not considered a sound system.

It is proposed to remedy this by—

- (1) Making all officers desirous of staff employment fulfil the following conditions :—
 - (a) Be recommended by their commanding officers.
 - (b) Produce a 70 per cent. certificate from a school of military topography. Certificate to be gained within six months of recommendation by commanding officer.
 - (c) Be attached to the other arms and to the army service corps of supply and transport corps for 6 months in all.
 - (d) Be a supernumerary member of the staff of the general officer commanding district for six months.
 - (e) Compete for the Staff College within a year of ceasing to be attached to general officer commanding's staff.
- (2) Those officers who fail to pass in to the Staff College to be qualified to hold certain staff appointments after passing an examination in staff duties.
- (3) The staff college course to be slightly altered and reduced to one year, thus enabling twice the present number of officers to be trained.
- (4) The vacancies for officers of the Indian army at the staff college to be increased, and the allowance raised to £ 300 per annum.
- (5) An officer of the Indian army to be appointed additional professor of tactics at the staff college.
- (6) Candidates for the staff to do routine work while attached to the district office. The staff officers thus freed to umpire a regimental field day and to practise staff duties in the field.
- (7) The deputy assistant adjutant general for instruction to lecture periodically during his spare time on some campaign, or on military literature generally.
- (8) After three years on the staff, officers if recommended, to elect for permanent staff service in B duties, or for return to their corps on expiration of their staff appointments.

VI.

BY LIEUT.-COLONEL G. P. RANKEN, 46TH PUNJAB INFANTRY.

Motto.—"Sic vos non vobis."

It has for many years been customary to heap ridicule on the education, or want of education, of the British officer, so when recent events in South Africa called for a revision of our military system, it was not surprising that the training and education of our officers were made the subject of much criticism, and that newspapers echoed the popular opinion that our officers were incapable and uneducated.

But popular opinion, which, after all, is not expert opinion, generally bases its views without enquiry and without investigation on some accepted idea, and so is not particularly valuable and must not be taken too seriously. Not only are our officers severely taken to task for their shortcomings but it has become the fashion to talk of our expeditions as being "muddled" through. But considering that only seven of the last 48 years have passed without our troops being engaged in some expedition or another, all of which have eventually, if not immediately, proved successful, it is difficult to believe that there is no method in our "muddling." Further, the great number of these expeditions have taken place under conditions of which the armies of no other civilized power have had any experience, so perhaps the British officer may have grounds for supposing himself not so incapable and ignorant as his detractors would make him out.

Still, modern conditions have made vast changes in warfare, and without accepting, on the one hand, the pessimistic views of the man in the street or, on the other hand, without detracting from the successes of the past, it is not only desirable but imperative to consider whether the education and training of the past are sufficient for the conditions of the present.

It would be out of place in this essay to go at length into the changes that have taken place in tactics: it would be sufficient to summarize them by saying that modern conditions require the same initiative, the same independent action with a view to a common object in a lesser degree, certainly, but on the same lines, from the smallest unit commanders as were formerly required only from the commanders of detached forces.

These requirements, of course, necessitate on the part of the junior officers higher training than was necessary in the days of close formations when a general or a battalion commander was in direct communication with every unit in his command. Such conditions call for great individuality, more forethought, and greater freedom of action than was necessary in the past, and the object of this essay is to consider how far our present education and training are calculated to develop these qualities.

To commence with the education of the boy who proposes to enter the army, the first question that suggests itself is—"What standard of education should be required from a candidate for a commission?"

Such a question naturally suggests the answer: "Sufficient education to enable him to enter at once on the study of professional subjects," and to this may be added, as a secondary object, "Such an education as will enable him to associate on terms of equality with his brother officers." The objects of the first are purely utilitarian, of the second, more or less sentimental, so it is only right that the latter should be kept entirely subordinate to the former. It is, therefore, only necessary to indicate a course of instruction which will prepare boys to undergo military instruction, and develop in them those habits of mind which will be useful to them in their future career.

It used to be a saying that the fool of the family was always sent into the army. However true this may have been in days gone by, it does not (if we are to judge by the position in their schools of the boys who now enter the army) hold good now-a-days. The cleverest boys at a school undoubtedly, as a rule, elect for the civil service or for the learned professions, but the boys who pass into Woolwich and for the line, into Sandhurst, are certainly up to the average of their contemporaries at school.

Where little or no competition exists, as in the case of candidates for commissions in the cavalry and foot-guards and King's and India cadets, the results of the examinations show that the candidates for the open examination are much better educated than those who have merely to qualify.

University candidates no longer compete at the same examinations as the ordinary candidates for Sandhurst, but taking into consideration the places such candidates used to obtain when the conditions for both were the same, the marks made at the Sandhurst examination by candidates, who at the same time passed for either the civil service or Cooper's Hill, and the very small percentage that exists between the marks made by the first and the last candidate for Sandhurst, I am inclined to believe that the education of army candidates is up to that of the average of lads of their age and that it is not the education only of boys intended for the army that is at fault so much as the whole system of secondary education. Boys whose minds develop early educate themselves in spite of the system; those who join other professions find themselves obliged to make up the deficiencies of their earlier education by the study of those branches which affect their efficiency; but in the army there is no imperative inducement for the young officer to read at all beyond the very small amount that is necessary to keep him abreast of the moderate requirements of his daily work—and some officers in consequence remain in much the same intellectual state in which they left school.

Still, it is unfair to judge a class from the failings of a few,—and if accident does occasionally expose the inability of an officer to express his thoughts in writing, it is neither logical nor fair to condemn the whole army for the want of education of, say, ten per cent. Other professions are not condemned *enmasse* when one of their number is found guilty of original grammar and phonetic spelling.

After all, inability to express his thoughts correctly does not seem to be fatal to a soldier's career if one is to judge by the Great Napoleon who, according to Mr. Rose "to the end of his days could never write Italian, much less French, with accuracy."

It is not uncommon to hear education talked of much as if it were a mechanical process with a finite end, as if, having gone through certain courses and passed certain examinations, a boy or a man could be looked on as "educated." The absurdity of this is patent, but while examinations form so large a portion of school, university and army life, the real objects and the real limits of what is commonly called education are liable to be overlooked. One of the most successful teachers of the past century laid down as a maxim, that the "main intention of early education should be the development of the *habit of thinking* and the exhibition of the right mode of setting about it."

Undoubtedly, if all earlier education were of this nature, every profession would be benefited, but unfortunately our public school system of education has little in common with it, and the education of the ordinary English school boy is not on lines which are calculated to bring out the best of his reasoning powers.

The War Office rightly endeavours to attract public school boys, but does so in a way which is hardly satisfactory—namely, by giving a preponderance of marks to those subjects which are taught in public schools to the detriment of more utilitarian subjects. Some improvement has taken place in this respect, and the probability is, that shortly we shall not only have our army examinations in more utilitarian subjects, but our public school curricula will follow on the same lines.

In the case of every other profession, the entrance examinations are fixed with a view to the previous study by candidates of subjects which will be of use to them in their subsequent career; the army alone, formerly almost entirely, and still, to a considerable extent, moulds its examinations, not on lines likely to be useful to its candidates in after life, but in accordance with the stereotyped teaching of the public schools.

The War Office has a right to demand from candidates for commissions proofs that their early education has been such as to prepare them to commence their military studies immediately on their joining either Sandhurst or Woolwich—and proof that their minds are trained in a way that will render them capable of using the instruction they acquire at these institutions in a practical manner.

It would be undesirable to specialize the examinations to an extent that would render all preparation for them useless for any other walks in life, and though the idea that the army entrance examinations should be based on such lines as to allow those who fail for Sandhurst to enter the learned professions, cannot be seriously defended, there is an unconscious humour in the suggestion, which in the present outcry makes it forgivable.

In my day, public school teaching was mainly classical, and though a "modern side" existed in most schools, it was not looked on with much favour. On the main, or classical side, the great bulk of a boy's time was given up to Latin and Greek, and much to ancient history and geography. It is somewhat curious why the study of dead languages and ancient history has been allowed to retain its predominance in public schools, though the reasons why the school masters favour it is much more obvious. Without entering into the history of the position held by the Latin language in England until comparatively modern times, Latin was a necessity to all the earlier students, as by its knowledge alone could they aspire to any further branches of learning. In due course it lost its utility, but it seems to have been handed down from generation to generation as the very backbone of education—probably because it was the most convenient subject to teach and possibly because the mass of school masters had little else to teach.

The educationalist to whom I alluded to above, remarks: "I believe that part of the truth lies in this, that the teaching of the classical languages has been in the course of ages reduced to a communicable system and can be taught as a routine, whereas instruction in the rudiments of mathematics is left to the haphazard of the teachers."

Latin and Greek are both of great educational value and the incisiveness of expression in both these languages is undoubted, but benefit from their study can only be obtained by those who really master them, and my experience is, that the majority of boys only obtain an evanescent smattering which is of little indirect use to them.

In this connection, the remark of Mr. A. C. Benson, "that the majority of boys in a public school who learn Greek are never aware that they are in the presence of literature at all" is of interest. So far as my experience goes, the remark applies, though in a less degree, to Latin also.

If the indirect benefits which the classics are claimed to give were attained by the majority of boys, there would be nothing to be said against a large proportion of marks being given for these languages in the army entrance examinations. But a large proportion of marks has been given for these subjects in the past, and if we are to believe the popular clamour, it is in the very points in which the study of the classics should have benefited him that the British officer is found weak. It appears to me, therefore, that a change in public

school education, so as to give much more prominence to utilitarian subjects, is what is necessary.

Major James writes that: "Education at a public school is only intended and only suited for those who are to go to the universities and take a classical degree." The public schools are not likely to change their curricula until pressure from without compels them to do so. This pressure must come from parents and guardians, and these will be compelled to exert it if the War Office sets a more utilitarian standard at the army examinations.

The present entrance examinations can in no sense be described as being other than tests of general education, and the very existence of army classes in schools and of army examinations points to the fact that the public schools do not give a satisfactory general education. The belief that the whole system of education in our public schools will shortly have to undergo a radical change appears to be gaining ground. It would be out of place in this paper to speculate as to the nature of these anticipated general changes, but as I have said before, the army has a right to demand from its candidates education of a nature which, while specially preparing them for their duties as officers, should, at the same time, form the groundwork of good general education on which they might later, if necessary, specialize for any other professional career. In asking less than this, the War Office would be unmindful of its interests; in asking more, and so requiring early specialization, it would be unfair to candidates who, after studying for the army, do not, for various reasons, enter it. If the War Office assumes this position, the public schools will in due course have to conform, and with the result that the requirements of the army will be taken into consideration in the public schools curricula of the future, and we shall no longer see the War Office accepting, as the proper education for our officers, a course of study suitable only as a preparation for a classical degree.

Writing recently, Colonel Maude says: "It took me, working single-handed, and picking up my education as I went along (I learnt very little at school or at Woolwich), twenty years before I could formulate my ideas in fairly accurate language. I submit that if the problem had been propounded to a man of Huxley's scientific acumen, he would have arrived at the same conclusions in twenty hours."

The problem to which Colonel Maude refers, although a professional one, is no concern here, but many of us have realized his position, thanks to the family education of our youth, we are unable to set our ideas in order in our minds or express them clearly in language.

The study of classics is intended to promote clearness of thought and expression. If it fails, and as regards the majority of boys it

certainly does fail, it is better to attempt the end by more direct, shorter and simpler means.

The plane to which Huxley attained is immeasurably beyond what any of us may hope to reach, but surely there is no reason why our education should not have been such as to enable us to approach the daily problems of our life with reason and with method? No one denies the value of Latin as a mental training as giving a command over our own language and a knowledge of much of its derivation and consequently of the true shade of meaning of many words. As a writer in the *Pioneer* remarks: "His own language is but half understood by the Englishman who is ignorant of Latin."

But the common complaint is that not only the young officer but the young Englishman in general, is ignorant of very much that he should know, and the fields of knowledge are widening every day, and widening in a direction unconnected with the classics. This being so, it is wrong to occupy valuable time with what is after all not an end but only the means to an end, when the time could be more profitably employed in attaining more useful ends by more direct means. Little as I feel qualified to join in the controversy regarding the utility or otherwise of the classics, the prolonged study of them appears to me to be open, as far as the army is concerned, to the serious objections that it gives in the mind of the schoolboy, importance to non-essentials, and focuses his vision on the means to the exclusion of the end, commencing a groove which later in life in the army, deepens. For these reasons, apart from all others, I am opposed to importance being given to classics at the army entrance examination.

I have submitted that a candidate for a commission should be required to show proof that his earlier education has been such as to enable him to enter at once on the study of his profession. No very advanced education is required for this—a cadet should be able to write legibly and express his thoughts clearly in correct English. He should know sufficient mathematics to enable him to grasp the problems which occur in his daily work. He should have general knowledge of geography and modern history sufficient to prepare him for the study of military history. He should have an elementary knowledge of geometrical drawing. He should have a knowledge of book-keeping, and it is desirable that he should be able to read freely, and make himself understood in at least one foreign language.

Frankly, this is no high standard. It is probably one that could be attained by study at a board school and certainly at a commercial academy, but as general education, it is quite sufficient to enable any cadet to commence the study of his profession.

It may be urged that the very elementary standard which I suggest is retrograde and below what should be required of any one in the position of an officer. The past has seen more ambitious standards set in the army examinations. If they had had the required

result there would now be no need for a committee on the education of officers. True education only begins when a boy leaves school, and a thorough grounding in these elementary subjects, would enable any young officer to take up any subject likely to be useful to him in his profession.

I submit that the education of any boy of 18, who is not found proficient in these elementary subjects, must be looked on as a failure for whatever profession he may be intended

It is, of course, not desirable to confine the education of officers to such narrow limits and, therefore, other subjects should be optional at the entrance examinations, but marks should be so allotted that any candidate really proficient in these obligatory subjects should be practically certain of passing. As optional subjects, I should admit higher mathematics, foreign languages (a higher standard being required than for the obligatory examinations), English literature, the various branches of physics, chemistry, botany, geology, logic and freehand drawing. The value of Latin as an early training being generally admitted, it should also be included as an optional subject, but a low standard, such as might reasonably be reached by boys studying it from the age of 10 to that of 14 should only be required, and the amount of marks allotted to the subject should be in consequence small. The number of optional subjects allowed to be taken up should be limited, and a certain number of marks should be deducted from those made by the candidates in each subject, optional and obligatory, to render a very slight acquaintance of no value.

For Woolwich, higher mathematics, chemistry, electricity and magnetism should in addition be made obligatory.

In the above scheme, it will be observed that I have kept two objects in view, *viz.*, the training of the reasoning powers rather than the memory and the acquirement of knowledge likely to be useful.

In weighing the recommendations of schoolmasters and army crammers before the Military Education Committee it must not be forgotten that both classes of men are interested.

Most schoolmasters are public schoolmen who have consequently taken a classical degree at one of the universities, their training and their knowledge are mainly classical—their sympathies are entirely so. It is to be wondered at that many of them look on a classical education as being the only education worthy of the name?

Having specialized in classics, the classics are the only subjects it is convenient for them to teach, if not the only subjects they are, without fresh study, qualified to teach! It is not strange that their recommendations show a strong bias in their favour.

Similarly, the most convenient subjects for army tutors to teach are those that can be epitomized and taught in a short time, consequently their opinions must be discounted also as being biased.

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from our experience in the past when iron discipline, perfection those order drill and but little else were required, we evolved our system of training. In the past, mechanical obedience to definite orders was the main thing required from a soldier, whether officer or private. Obedience was everything, reasoned action superfluous, if not dangerous. In this state of affairs there was but little beyond his drill and exercise for a soldier to learn, but with precision and smartness, the necessary keynote of the army, it is not surprising that a letter perfection was required in all matters outside the drill book as well as in those within. This keynote of letter perfection in all details is not yet silent in the army, and to it may be attributed the majority of the criticisms of the Committee of Education. The spirit of this pipeclay precision has not yet been exercised from Sandhurst, as a perusal of the recommendations made by the Committee and a glance at the terminal examination papers will show. The ground has been thoroughly gone over by the Committee, and if in adverting to their criticisms and recommendations on points which appear pertinent to my subject, I am advancing nothing new and nothing original, I mention them with an object which will appear later.

To take the subjects taught at Sandhurst *serialim*. The first point that strikes one as being subject to criticism is the very short time that is devoted to tactics, and the small number of marks that are allotted to that subject. From the report of the Committee it appears that the hours of a year's study at Sandhurst are divided much as follows :—

Hours.					
60	...	...	...	...	Theoretical } Tactical.
40	...	...	...	...	Practical }
55	...	...	...	...	Military law.
55	Military administration.
30	Military history.
240 (?)	Topography.
223	Engineering.
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I do not for a moment mean to suggest that such bias is intentional, but both schoolmasters and army tutors are human, and to ask men to give an unbiassed opinion in matters which concern their own interests, if not livelihood, is to ask them to be more than human.

The British school-boy, and not infrequently the British officer, has a way of treating all subjects with which he is not acquainted as being so entirely out of his depth, that any suggestion that he might find interest or profit from a smattering of them is at once put aside with a "far too deep for me," and this confession is invariably made with complacency if not with actual pride. The effect of this attitude of mind is to make him approach every subject as if it were of the deepest mystery only to be grasped by a few of the elect. Instead, therefore, of trying to comprehend the main principles of any subject which he is called upon to learn, he starts with a hopeless belief in his own incapacity to do more than learn a little of it by rote, and wastes his time accordingly. His chief weakness is a disinclination to see and treat as real what he learns in books.

This frame of mind is much more common than is credible, and it is this frame of mind that is at the root of the complaint of the want of education of our officers. It is, however, the outcome, in the first instance, of our system of public school education and later of our army routine when strict attention is required to the means and none to the ends. In other walks of life, personal interests come into force to counteract this mental attitude, but the system which teaches subjects, the utility of which is not apparent to the student and which are learnt by the exercise of the memory rather than by that of the reason is in the first instance to blame.

By giving more value in the army entrance examination to those subjects which can be learnt by the exercise of the reasoning powers alone and lessening the marks for those subjects which are merely tests of memory, we should do much by increasing the study of the former to combat this mental attitude.

II.—SANDHURST AND WOOLWICH.

The Committee on Military Education while reporting, favourably on the system of instruction at Woolwich, is extremely stringent in its criticisms on that at Sandhurst.

The faults found by the Committee both with the scheme of training and with the manner of carrying it out are numerous. Many of the recommendations are for changes in what are mere matters of interior management and, however worthy of consideration, in themselves, have no real bearing on the wider subject of military education, but many points brought to notice are of great importance, not only as deeply concerning the actual instruction given, but still more as bringing to notice the tendency at this early stage to subordinate matters of real importance to petty and unnecessary details. At this period of his career, it is of the greatest importance that the real aim and object of each subject a young officer is taught should be clearly explained to him, and it should be impressed on him that the various formalities and details which accompany them are merely means to attaining

definite ends. But looking at the report of the Committee, it is obvious that still to a great extent, if not so much as formerly, the instruction at Sandhurst consists in the teaching of masses of detail to the exclusion or the overshadowing of the real object to which these details are merely subordinate. A parallel case would be teaching a young artist the treatment of detail alone, while ignoring the necessity for sketching in the whole picture, and omitting the treatment of perspective and foreshortening.

If an officer starts in life with a clear grasp of the object of his daily work, he will soon by practice and experience learn the necessary details leading up to it. But if he is taught merely to focus his vision on the formalities and routine of what he has daily to encounter and is in no way required to keep in view the real object to be attained by these formalities, it is not unnatural that he will in course of time come to accept the mechanical performance of these formalities as being the only objects of his profession.

From our experience in the past when iron discipline, perfection in close order drill and but little else were required, we evolved our system of training. In the past, mechanical obedience to definite orders was the main thing required from a soldier, whether officer or private. Obedience was everything, reasoned action superfluous, if not dangerous. In this state of affairs there was but little beyond his drill and exercise for a soldier to learn, but with precision and smartness, the necessary keynote of the army, it is not surprising that a letter perfection was required in all matters outside the drill book as well as in those within. This keynote of letter perfection in all details is not yet silent in the army, and to it may be attributed the majority of the criticisms of the Committee of Education. The spirit of this pipeclay precision has not yet been exercised from Sandhurst, as a perusal of the recommendations made by the Committee and a glance at the terminal examination papers will show. The ground has been thoroughly gone over by the Committee, and if in adverting to their criticisms and recommendations on points which appear pertinent to my subject, I am advancing nothing new and nothing original, I mention them with an object which will appear later.

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Military engineering is certainly a useful subject in itself, but it is only on the rarest occasions that an infantry or cavalry officer has any use for any but the most elementary knowledge of it, and the syllabus of the Sandhurst course, though excellent training, can seldom be of much immediate use to a young officer. It is certainly desirable that an officer should be acquainted with as much engineering as possible, but it is equally undesirable that he should have to attain this knowledge at the expense of a subject like tactics, of which it is infinitely more important that he should have a thorough grasp. The marks given to the two subjects are out of all proportion to their relative importance to line officers, 450 being allotted to tactics and 900 to military engineering, of which 300 are for plates, sketches, etc.

In my day the time given up to the preparation of these plates was out of all proportion to their utility, and neatness of drawing and colouring were of much more value than mere correctness, and this appears to be much the case at the present day.

Personally I have never since had occasion to put in practice what I learnt of the art of making these drawings—still less have I ever been called on to build any of the field works which they represented, in fact I cannot recall ever having seen any of them since I left Sandhurst.

The value attached to the learning of certain data which, however useful in themselves, cannot be retained in the head without constantly refreshing the memory, and which can always be obtained from a pocket book, is to be deprecated.

If there were any finality in such matters the learning of such data by rote might be excusable, but each year sees changes in armament and consequently in the methods which must be adopted by the defence. To quote one single instance, our experiences in South Africa having entirely altered our views regarding shelter trenches, and how many marks would have been allotted to any cadet who in, say, the summer of 1899 submitted a sketch of Boer trenches in a scheme of defence? To topography 800 marks are allotted compared to the 450 marks obtainable in tactics. Here again the disproportion between the marks and the relative importance of the two subjects is very marked. Every officer is aware that the capability of turning out a highly finished artistic sketch under ordinary, still more, service conditions, is a gift enjoyed by few, but every one can be taught to make a rough but sufficiently accurate sketch. By practice in making such sketches an officer not only gains rapidity and accuracy, but what is still more valuable, the power of grasping the features of the ground. The attainment of this object of course should be the first aim in the teaching of topography, but it appears to be almost entirely subordinated at Sandhurst to the making of highly finished sketches and answering abstruse questions which, in practical military sketching, are of very little moment.

I have already referred to the amount of time devoted to tactics. The Committee rightly find fault with its treatment entirely apart

from engineering and topography and the preponderance of time allotted to its study indoors as compared with practical instruction in the field.

In organization, the greater portion of the time appears to be devoted to the acquirement, by rote, of certain data and facts which are always available when required by an officer, the most important subject of book-keeping, simple though it is, being entirely ignored. It would be interesting to know how many cadets on leaving Sandhurst are aware of the difference between a cash account and a balance sheet, and yet without this elementary knowledge every officer who has charge of funds is entirely at the mercy of his color-sergeant, or clerk. In military law, a grasp of the main principles of procedure and evidence is of infinitely greater importance than knowledge of the petty formalities of courts-martial and the maximum punishment awardable for each offence; this information is always forthcoming when required, yet the examination papers are mainly tests of the power of carrying in the mind facts which are easily crammed for an examination as they are afterwards forgotten.

The importance of close order drill for both recruits and young officers cannot be over estimated, but it is only as a means to an end that it has its value, and the undue importance given to it by making it the only test at the annual inspection is harmful, as giving a wrong idea of its importance to the eyes of the cadets. Did the amount of time devoted to steady drill attain the object of perfecting the cadet in the exercises of the barrack square it might be excusable, but it is perfectly well known that in nine regiments out of ten the young officer on joining is at once sent to re-learn the modern equivalent of the goose step on the recruit's parade ground.

The Committee sum up their criticism of the instruction in the following words:—

“As a result, the instruction which leads up to these examinations has been very largely of an unpractical nature. Principles have been lost sight of in a mass of detail, and the minds of the cadets have been wearied with accumulations of useless formulæ and dreary and unpractical exercises, with the result that the young officer, while still in the cadet stage, acquires a dislike to all military study, which too often remains with him throughout his career. At present an attempt is made to cram the mind of the cadet with masses of figures, and he is taught to regard with horror any deviation from a sealed pattern. Little encouragement is given to originality of mind, and few attempts appear to be made to exercise him practically in the mode of application of the theoretical knowledge with which he is surfeited. The result is that he is inclined to loose interest in his studies, and to regard them as a nuisance which need trouble him no more once he has obtained his commission.”

It is difficult to believe that the course of instruction at Sandhurst often has the result of giving the young officer the dislike to

the study of his profession that the Committee, advance, but it undoubtedly has a result which is almost, if not entirely, as bad in causing him to focus his vision on detail alone and to disregard the results which attention to detail is intended to produce. In this manner the groove which is commenced by the study of school subjects, not in themselves essential, is deepened.

It is this aspect of the question that is to my mind the only serious one. Knowledge of any military subject can easily be acquired by any one whose education has been sufficient to pass him into Sandhurst, provided he is desirous of acquiring it. But a mind that has been trained to regard details and non-essentials alone as important must perforce become cramped and inclined to disregard the real ends, if indeed, it does not lose the capacity of grasping them.

It is in this respect that the system of education at Sandhurst fails—apart from this, what is taught there and what omitted is of little real moment—any omissions can easily be rectified afterwards by any officer who cares to do so.

The Committee consider that a cadet on joining his regiment should be "a good shot, proficient in drill—which presents no difficulties to the boy of intelligence, in signalling, in scouting, in reconnaissance and the use of ground, and should be fully competent to assist his captain in the instruction of the men of his half company. He should have mastered the principles of field fortification as applied to tactics, and should be able to write an intelligible report on the military features of any specified tract of ground and to illustrate it with a sketch. This need not be highly finished, but should be fairly accurate, and must convey a good idea of the ground tactically considered. He should have learnt sufficient military history to stimulate his interest in the important subject, and should have grasped the principles of tactics. He should be familiar with the organisation of the British army and with the outlines of its history. He should also have such elementary knowledge of military law as will enable him to understand generally the nature of court-martial procedure, and the powers of commanding officers. He should have a general knowledge of the systems of pay, messing and clothing in force in the arm of the service to which he is posted, and should understand the method of keeping military accounts. He should be able to ride well, which is of course essential if destined for the cavalry, and ought to understand something of horse management and the method of fitting and caring for horse furniture and saddlery. In addition, all young officers joining should be thoroughly familiar with the duties of private soldiers and of non-commissioned officers of every grade."

No one will deny that such proficiency on the part of a young officer joining his regiment would be in every way desirable, but it is to be feared that it could hardly be obtained without extending the Sandhurst course to an extent that would be impracticable.

To take some of the items in detail:—A course of signalling according to the regulations “will occupy 60 working days—each consisting of four attendances of an hour’s duration by day and one of an hour by night.” That is, 300 working hours; at the conclusion of this course a man to be efficient must be able to receive and send service messages by day and night at the minimum rate of 8 words a minute on all instruments.

But even then he is not considered proficient as an instructor, for in order to qualify to *enter* the Aldershot signalling class, which lasts for a further twelve weeks, he must be able to receive and send 10 words a minute off the small flag and 8 words a minute off the lamp. Every one knows that a smattering of signalling is practically useless—to remain efficient a man must thoroughly master signalling and then keep himself efficient by constant practice. If experience has shown that proficiency can only be attained by courses of such extended length, it is hard to see how the time to master signalling can be spared from the course at Sandhurst.

The time taken up by these signalling courses is the same as the total amount at present devoted to the study of tactics, military history, topography, and engineering combined at Sandhurst. Still time might easily be found for instruction in semaphore signalling, at any rate to an extent that would enable officers to communicate with each other in the field.

Riding.—At present cadets appear to undergo instruction in riding for 39 hours in each year. This is manifestly insufficient, but it is questionable whether any extension of the course, sufficient to give satisfactory results, would be practicable. An officer who proposes to enter the Native cavalry must be certified by his commanding officer to ride well and to be fond of riding, polo, pigstick-ing, etc. To show these tastes it is not unreasonable to suppose that in a year in India he rides about twenty times as much as he did in his year at Sandhurst, but even then he is required to undergo a three months’ course in the riding school of a British regiment before he is finally qualified for employment with Native cavalry. If this is found necessary for officers who show special promise of proficiency in riding, as practically every officer who is appointed to the Native cavalry does, it is obvious that time could be found at Sandhurst, for no course of sufficient length to do more than teach the cadets the mere elements of riding.

From the consideration of these two items it appears that the course at Sandhurst would have to be considerably extended to ensure proficiency even in them alone and enormously extended to ensure proficiency in all the branches recommended by the Committee. If we require the cadet to be mechanically fitted with knowledge by a stereotyped process of teaching, then it is certainly not only desirable, but imperative, that the course should be lengthened very considerably. If, on the other hand, we hold, as I most emphatically

do, that the most valuable knowledge a man acquires is what he masters by himself, and that the object of the college should be merely to put a boy in the way of educating himself in military subjects, then the college course is quite sufficiently long and the subjects taught almost all that are required. But the whole teaching must be revolutionized, the system of examinations changed, and the whole spirit of the college course altered. Sandhurst should aim at preparing boys to educate themselves thoroughly in all military matters, helping them over the stiles that occur in the earlier stages. It should aim at teaching them to learn and teaching them to see the true ends of things, to grasp the essentials and to rate the non-essentials at their true value.

For this the present course at Sandhurst is ample, and the subjects sufficient, but the teaching of the subjects and the whole spirit of the instruction must be changed.

On the other hand, if the boys are to be taught mechanically all that the Committee requires of them, then a course of three years would be necessary, and the age of admission would have to be lowered to 14 or 15.

The system of training boys for the navy has proved itself eminently satisfactory, and a similar system would doubtless be equally satisfactory as a preparation for the army. But I do not think it would be necessary, if we could only alter the spirit and tone of the Sandhurst instruction.

Finding, as I do, fault only in the spirit of the teaching at Sandhurst and not with the subjects taught or the amount taught it is only necessary for me to allude very shortly to a few of the criticisms and recommendations made by the Committee as regards Sandhurst and Woolwich.

The suggestions that the officers of the Sandhurst staff should teach the cadets their drill from the commencement is neither very practicable, nor has it much to recommend it. It is not given to every officer who is thoroughly proficient in his drill to be a good drill instructor: the faculty is a thing quite apart and, from the nature of it, more likely to be found in the ranks. For topography, tactics and the other subjects we require the most proficient men as instructors; to call upon them in addition to be capable drill instructors would be, in many cases, to exclude the best men.

The study of modern languages at military colleges seems entirely out of place. If at the age of cadets, boys do not know French or German, they will never learn either from instruction in class. The teaching of Hindustani also takes up valuable time that might be better employed. A young officer can very speedily learn from a munshi in India as much as he could have learnt at Sandhurst, and the mere book knowledge which is all that can be taught at Sandhurst is of very little practical value.

The absence of musketry training at Sandhurst, and the fact that cadets there are not taught to clean their rifles while they are required to pipe clay their belts, are typical of the spirit of neglect of essentials and elaboration of the unnecessary, to which I have above alluded. The absence of proper guns for instruction at Woolwich is a matter that is more likely to surprise those who are outside the service than those who belong to it.

The most serious of the minor criticisms by the Sandhurst Committee is that the cadets have no inducement to work. From my experience this is very true. The best remedy for this appears to lie in the battalion system suggested by Colonel Moores, in which each company consists of four sections or classes being the first to leave the college.

The organization of both colleges as battalions should have the best possible results, especially if arrangements can be made for an annual camp. In these camps the cadets should be treated exactly in the same way as privates and non-commissioned officers, be given their rations and made to cook them and made to perform all the ordinary guards and fatigue duties of camp life. For many reasons I think it undesirable that the cadets should be attached to regiments for training with the men, but if in camp they were treated exactly as private soldiers ordinarily are there would be nothing to be gained from attaching them to a regular corps.

It only remains for me to note the reform that has been instituted at Sandhurst in restricting the cadets to beer only at meals and in not allowing them to have carpets in their rooms. It is not immediately apparent how this is going to assist us in the next great war.

My experience was that ninety per cent. of the cadets practically confined themselves to beer only, for the simple reason that they preferred it to anything else.

As for carpets, I cannot remember that many of us possessed them, and their prohibition can only affect a very small percentage of the cadets.

I fear, however, that the prohibition of all liquor than beer will be likely to lead to a good deal of *sub rosa* drinking of both wines and spirits, not because the cadets want them, but because they will resent not being allowed to drink them.

III.—THE TRAINING OF THE REGIMENTAL OFFICER.

At school a boy is taught to pay great attention to what are mainly non-essentials; at Sandhurst essentials are to a great extent subordinated to trivialities and formalities, and it is with this mind thus prepared that a young officer joins his regiment. Here one would expect that the necessity of preparing the men for active service and

making arrangements for their welfare and comfort would show him the more practical side of his profession even if the system on which the regimental training was carried out was behind the times. But it is to be feared that his regimental experience, instead of filling in the groove which has been marked, if not actually dug by his school and Sandhurst experience, deepens it into a furrow.

Matters have considerably improved during the past few years, but the change has been so recent that the examples I give, if some of them are a little out of date, are still so recent that they have formed the experiences on which the junior, if not the most junior officers, have been taught to estimate the relative importance of their military duties.

It is not the 2nd-lieutenants who establish new ideas and new habits of thought in a regiment; regimental custom is swayed by the more senior officers, each of whom has been brought up to look on implicit obedience to time-honoured custom as the only soldiering worthy of the name.

It will thus be many years before the habits and customs which held entire sway a few years ago completely lose their hold on military routine and practice.

To illustrate my argument, let me take the imaginary case of captain "A," an officer of some twelve or fifteen years' service, who, as probably a senior captain, would be now in a position to make his personal influence and ideas carry great weight with the subalterns. Such a man would in all likelihood have had his ideas formed by his early training, and it is very important that the nature of his training should be understood to gauge the views he would be likely to inculcate in the minds of young officers.

The day after 2nd-lieutenant "A" first joined his regiment he started to attend orderly room without his sword; fortunately he was intercepted by a horrified youngster a few months his senior, and from that moment his military training may be said to have commenced.

In a very short while he was initiated in the correct orders of dress for each of the regimental and garrison duties he was called on to perform, and it was explained to him that the incorrect wearing of helmet spike, sash, gold sword knot or blue patrol jacket was a military offence of no light nature. In themselves these little punctilios would have been of no great moment except for the waste of time they entailed and the undue importance that was given to their correct observance.

It was very soon brought home to him that though no knowledge of court-martial procedure was expected of him, and though a vote for an unsuitable or illegal punishment would be at worst remembered against him as a joke, any slip in the correctness of his order of dress at a court-martial would render him liable to a "wiggling." Such a state of affairs could only have one result: he came to look on the

correctness of his dress as being of infinitely more importance than the trial he was attending. I do not mean that he did not interest himself in the trial. A sense of duty and a desire to see fair play were sufficient to ensure that, but the day after the trial the fact that Smith had forgotten to wear his sash was far more likely to be remembered than whether the prisoner was awarded 56 or 84 days' imprisonment or any point of law or procedure that occurred at the trial.

A few years later, he found himself senior member of a district court-martial, and in that position responsible for writing out the second copy of the proceedings. He then discovered some of the more heinous crimes of which a court-martial could be guilty, such as—describing an artillery officer as "R.A.," writing the proceedings on both sides of the paper, omitting to initial corrections, failing to number the various sheets or failing to insert in their proper places the various papers attached to the proceedings. He also learnt that the King's Regulations, Command and Army Orders, to say nothing of various circulars, all provide instructions in modification of the Rules of Procedure, with all of which it is very difficult to keep abreast, and that if the proceedings were to be correctly written out, the president must give much more attention to them than the case under trial.

A good many of the formalities I have enumerated above are now obsolete, but many of them still exist, and the proceedings of a court-martial contain many pitfalls which officers who are not in constant practice find it difficult to avoid, and the unnecessary formalities make the proceedings slow, cumbersome and clumsy to a degree. Quite recently an officer of my acquaintance involved himself in a correspondence by typewriting the proceedings instead of writing them by hand.

One of the periodical topics in the Indian press is the arrears of work which have accumulated in the Indian courts. I have often wondered what these arrears would amount to were civil judges hemmed round with the restrictions and formalities of courts-martial.

The evils of the formalities of court-martial do not, however, lie so much in the slowness and clumsiness in the proceedings they entail, as in the tendency which they have to cause officers to regard the formalities as being of more importance than the trial—an attitude of mind which other experiences are likely to confirm. Early in our imaginary subaltern's career, he found he was required to attend orderly room daily; sometimes he had work which necessitated his presence. Generally, his presence was only required there in case he might be wanted. At first this appeared to him to be unnecessary, and a waste of time; later, he came to accept it as a matter of course, and one of the things for which he was paid.

He was required to make daily inspections of his company barrack rooms, where he found everything swept and garnished and all bedding folded up according to a pattern which evidently required

much time and trouble to accomplish. At first, this struck him as rather unnecessary and worrying the men for no purpose; later, he came to accept it as a necessary concomitant of smartness.

Once a week he was obliged to inspect the kits of his men. The object of this was, of course, to ascertain that, each man was in possession of his "necessaries," but our subaltern was speedily taught that the absolute regularity of the folding and placing of each article was of even greater importance, and he soon became a martinet in this respect.

Having finished his recruit drill, he took charge of his company on the range. Here he found that, though good results in shooting were desirable, it was very much more important for his welfare that each man should fire strictly in the regulation position.

Having thoroughly mastered that position and become imbued with its necessity if good shooting were to be attained, he found one morning that a new position drill had been introduced, and that what he had been taught, and had been teaching as essential, was entirely wrong.

This was a little puzzling, but he was by this time imbued with the true military spirit, and he was presently engaged in training his men to keep their right elbows up or down in accordance with the latest fashion, or their hands a couple of inches further forward or further back than formerly. The curious thing was that, being a bit a snipe-shot, he did not find it necessary to alter the method of holding his gun which experience and practice had shown him to be the most comfortable and effective.

Having taken considerable pains in training his men he succeeded in making his company the best shooting company in the regiment, but his triumph was short-lived—he had omitted to initial one or two corrections in the registers, and he had made one or two mistakes in adding up the scores. The regimental returns consequently contained an infinitesimal error and back came some pungent remarks "by order" for the officer who signed them. Henceforward his first attention was to the registers, his second to the shooting.

Early in his career he learnt the duties of orderly officer and speedily grasped the fact that he could not well commit a more serious offence than inspecting the regimental cooking pots without his sword, or, if a gunner, of hearing reports at tattoo on turning out the guards at night with his gold lace trousers on.

In due course he became qualified to take his share of garrison duties, and he presently found himself with two other officers solemnly examining half a dozen pairs of gymnastic shoes and recording his opinion, in triplicate, on an army form and a schedule, that they ought to be replaced at the cost of the state; or he found himself one of a similar board which passed the death sentence on a mule with a broken leg which ought to have been shot twenty-four hours before.

He found that no single officer could be trusted to give a reliable opinion on such matters, three were always necessary.

He found that there was no necessity for him to trouble himself about the feeding or clothing of his men—the quartermaster managed all that—all that was necessary for him to do was to sign the indents that were put before him by his pay sergeant daily, and every thing was all right. Though his men were entirely dependent on the commissariat for their daily food, he found he was neither required nor expected to know anything about the means by which their food was obtained or supplied.

So much was this taken for granted, that when the commissariat was short-handed it was an officer from a much under-officered native regiment who was detailed to perform the duties, though, as the latter complained—"All we ever get out of them is a monthly pint of oil and pound of candles for the signallers."

He found it was considered undesirable, inconvenient, or impossible to detach his men in small parties where they would have had to look after themselves. Without special arrangements for native servants, commissariat, transport and medical assistance, a sergeant's guard could not be detached even to take charge of standing camps erected for British troops moving to the hills, and such guards had in consequence to be found by native regiments.

It would be easy to multiply indefinitely the experiences I have given above, but there seems little object in doing so when any officer who reads them can amplify them from his personal experience.

The result such experiences had on captain "A" was that he came to look on his professional duties in much the following light—(1) He must be prompt, smart and punctilious in the execution and in the requirement of the execution of every detail. The object of any detail was a matter of no concern to him, whether useful or obviously useless he must still require its execution in a smart and soldierly manner. (2) It was infinitely better to do the wrong thing the right way than the right thing in a manner not contemplated by the regulations. (3) The more strictly he adhered to custom and regulations and the less he used his common sense the better for him. (4) He found he had no responsibility or cares outside the daily routine of the barracks: the requirements of his men were looked after by the quartermaster and the departments, and he had no concern with them further than bringing to notice any shortcomings; and lastly (5) that it was undesirable or impossible for his men to look after themselves.

Such was the result of his experiences so far as ordinary routine and his daily duties were concerned.

The first thing that he learnt as regards the actual training of himself and his men was that as a company officer in peace time he was practically never allowed to be free from leading strings or

to be in [a position in which he was called upon to exercise his forethought or judgment. Wherever he went or whatever he was called upon to do he was always hampered by strict orders and instructions which gave him no room for the exercise of self-reliance or initiative.

Detailed to exercise his company in field-training he was given a programme of each day's work, and informed that it must be strictly adhered to to avoid upsetting the regimental returns. No transport being available, his exercises were confined to those he could carry out without interfering with the men's dinners.

Going into camp with a wing of his regiment for field training and musketry, he found his rôle equally circumscribed. Seldom allowed any discretion or initiative, he was taught to wait for orders or to carry out a rôle carefully laid down for him beforehand.

At camps of exercise matters were even worse: units being larger, nothing was left for him but to march or counter-march his company where he was ordered, and in nine cases out of ten he was ignorant of the objects of his movements. Here again all arrangements for the feeding of his men and the transport of their baggage were made by the quartermaster or the transport officer, and all he had to do was to draw his rations from the regimental ration stand, and this generally was done for him by his pay sergeant.

Such training could only have one result: he learnt to wait for orders and to expect to have arrangements made for him and for his men. All initiative atrophied. Resource never called for, instead of developing, gradually died out. If any of the qualities of resource and initiative survived, they were retained in spite of his training, which only tended to crush them.

It may be argued that I have painted the imaginary career of captain "A" in unnecessarily dark colours, and that in his daily life a company officer is occasionally called on to use intelligence, foresight, resource and initiative. I do not deny this for a moment, but such occasions are rare, while the crushing of the system is of daily occurrence. After such experiences and training is it to be wondered at that when such an officer goes on service and is thrown on his own resources, he is helpless and incapable of looking after the comfort or welfare of his men or of handling them on his own initiative? Experience has shown us that after a short time on service he settles down and adapts himself to the requirements of his position, but many lives would have been spared if our officers had been put in a position to accustom themselves to the practical side of their profession before going on service.

THE REMEDY.

Much has been done of late years to abolish the rigid formalities, the pipeclay and red tape routine of the past, and in time these

reforms must have effect in changing the false ideals and standards which officers like captain 'A' keep before them and inculcate in their juniors. But until drastic changes take place in the system which endeavours to replace all initiative and all autonomy on the part of officers by rigid regulations which aim at providing specific rules for every possible combination of circumstances, little real improvement can be expected. Fortunately many of our old pipeclay formalities are dying, and in a few years their influence should die also. Great reform is still necessary in the system which aims at the tabulation of work performed in cast-iron returns, the compilation of which is made more important than intelligent instruction. To these two items, regulations and returns, however, it will be more convenient to refer later on.

To bring out the qualities which our officers are required to show on active service it is obviously desirable to place them in as nearly as possible similar circumstances in time of peace. This can of course only be done by throwing them on their own resources entirely, for looking after the welfare, the comfort and the provisioning of their men and giving them independent command to carry out some rôle for the success or otherwise of which they will be entirely responsible.

To give junior officers such practice and such experience it is only necessary to send them out with their companies to manœuvre against each other for a week or a fortnight at a time.

Innumerable schemes for such small manœuvres will at once present themselves. I will only suggest one and that only with the object of making clear my meaning. 'A' company under captain Jones might be sent to rendezvous at a certain village some twenty miles on. Here he would open his sealed orders, which would direct him, say, to represent a rear guard falling back by a certain line—his halting places might be specified. 'B' company under captain Smith would start the following day or a couple of days later with instructions that 'A' company was reported to have arrived at the village specified, and that he was to get in touch with it, follow it up, cut it off if possible, or drive it off its line of retreat. A senior officer as umpire would have to accompany each force, but all arrangements for transport, rations, forage, tents (if taken), etc., should be made by Captains Smith and Jones.

A little independent experience of this nature would be of more value than all the peace time training these officers now receive. Such small manœuvres would give officers the experience they require in looking after their men, in handling them and in working out actual problems for themselves.

Of course mistakes would be made and the men might occasionally have to go without their dinners or their tents, but it is infinitely preferable that the men should go hungry or suffer a night's exposure in peace time than that they should do so on service.

An officer who made a mistake by which his men suffered would never be likely to repeat it.

No officer under the rank of field officer learns anything from a camp of exercise: he is never in a position in which he can see what is happening. The small independent self-managed manœuvres, I suggest, would not only be invaluable experience for all concerned, but they would force the officers engaged to take that interest in what is being done that is so non-existent in all camps of exercise, and without which no instruction or profit can be obtained.

If every officer of five years' service were given such an independent command once a year or once every two years, we should very soon hear no more of our officers being unable to handle their men or look after them.

In the staff corps young officers are very early thrown into the position of independent command and of having to provide for all the needs of their men and with the happiest results.

IV.—STAFF OFFICERS.

The duties of staff officers are multitudinous, and it is not easy to epitomise them. The army exists and is trained with the sole object of service in the field; the main duty of staff officers should, therefore, be those they are required to perform on active service. On service a general formulates the general idea of his intentions, and it is the duty of his staff to work out the details of his plans and see them carried out.

On working out such details, the following are some of the items which require attention: The selection of camps with due regard to defence, health and convenience, arrangements for water, and for watering and grazing animals, and for the dispositions of guards on the march and the posting of piquets on arrival. The order of march and the timing of the departure of each unit, arrangements for the baggage and for the movements of the supply train and for convoys to replenish supplies.

Various factors, such as the propinquity and character of the enemy, the number of hours of daylight, the climate, the nature of the roads and their state, the existence of defiles and places difficult to cross, occur in all such problems and prevent them being worked out by mere book-work formulæ.

In an action the synchronised movement of troops without unnecessary fatigue to any unit, the recommendation after the engagement, the selection of the bivouac, the moving up of the supplies, perhaps of tents, the removal of the sick and wounded towards the base—all such are duties, the details of which must be worked out and arranged by the staff.

Of course many such matters are arranged by the general himself personally, but a staff officer to be of any use to his general must be prepared at any time, in the event of his having received no specific instructions, to cope with any of the items I have detailed above.

To carry out such work, a staff officer requires knowledge of details, common sense and resource, and, above all, experience and practice. Common sense and resource may be inborn, knowledge of details may be acquired by study and observation, but practice and experience can only be attained by actual work under similar or as nearly as possible similar circumstances.

Consensus of opinion has thrown the chief blame for our failure in South Africa on the staff, but before casting the blame on individuals, it is only fair to ask—what training to prepare him to meet his active service responsibilities does a staff officer receive in his normal tour of duty in a district or station? In peace time the life of a staff officer is mainly spent in his office or in attendance on his general on inspection duty or as a spectator or umpire at field days.

Usually, on field days a scheme is prepared and the staff officer having detailed the opposing forces and their commanders and fixed the hour and place of rendezvous of each, joins his general and watches the operations as a spectator. The problems it would be his duty to solve on service are either absent or their solution is delegated to others. Even on a ceremonial parade, unless by chance there are two brigades, the actual placing of the troops on the ground is delegated to brigade majors appointed for the day. Usually cantonment roads are so wide there is no difficulty about troops concentrating simultaneously at any given spot, but even when a railway crossing or a narrow bazaar through which all would have to pass intervened, I have never seen the time at which the various corps had either to leave their parade ground or arrive at the "defile" inserted in orders. Yet such arrangements, especially if transport were also concerned, would be merely practice for one of the most important duties on service.

The clerical and routine work of a staff office is so great, and occupies so much of a staff officer's time, that he is forced to treat it, even if he does not come to regard it, as the end-all and be-all of his existence.

The correctness of returns, the proper forms of rolls required to be submitted, are matters which must be checked in his office and the most recent orders contained in G. O. C. C.'s, Command Orders or Army Circulars regarding the form or the wording of such rolls and returns strictly adhered to. All correspondence with the district, the command or army head-quarters must pass through his hands, whether it be of local interest or not.

In some cases this is desirable, in the majority it only entails extra clerical labour, extra delay. Even in matters which have no local concern, explanations have often to be submitted by the officer originating the correspondence, not for the information of the officer ultimately aimed at, but for the information of the intervening staff officers, when by direct correspondence the matter could be speedily and conveniently settled. With practically the whole of his time devoted

to clerical work, and his mind concentrated on avoiding having correspondence or returns "sent back" for some petty irregularity, it is hardly to be wondered at that staff officers occasionally settle down to a career little removed from that of a clerk. In fact, a staff officer has to fight against his surroundings if he is not to let them overcome his personality and his understanding of the proper duties of his post.

As with the regimental officer, so with the staff officer, routine makes for the destruction of the proper view he should take of his profession and his part in it.

Of course officers can obtain a theoretical knowledge of their profession by reading, and staff officers as a rule study their profession earnestly, but it is as hopeless to acquire practical knowledge of staff duties on service from reading alone, as it is to learn swimming without entering the water.

Most of us could quote instances of mistakes on the part of the staff. It is only human to make mistakes, and it is hard for the staff officer unless he has the fortune to acquire his experience from the mistakes of others, not to make mistakes.

In fact, I may go further and say that proficiency and experience can only be acquired from the example of mistakes, and the man is happy who can acquire his experience from the mistakes of others alone.

Mistakes during peace time are seldom of great moment; on service they may be fatal. It is all the more necessary, therefore, that staff officers should be given every opportunity in peace of training under circumstances as similar as possible to those on service, but the ordinary routine of a staff officer's duties gives him no such experience or practice.

The best means of peace instruction are staff rides when conducted by a thoroughly capable officer who has had experience on service, and can therefore add to the actual conditions of the day and place such imaginary conditions and difficulties as would occur on service. Even an officer who has had actual experience finds the working out or the consideration of such problems a most profitable exercise, while those to whom they are novel find them invaluable. Yet staff officers appear but seldom to take part in staff rides: either their services cannot be spared or they are considered to require none of the instruction or exercise that is to be obtained from them. As I have pointed out, the part they take in manœuvres round cantonments is, as a rule, a very small one.

Although useless as a means of instruction for regimental officers and rank and file, camps of exercise give admirable opportunities for the training of staff officers, and it is a great pity that more of the executive appointments at these camps are not filled by actual staff officers.

The value of camps of exercise in giving staff officers and the commanders of the larger units experience in the handling and manœuvring of large bodies of troops is inestimable, and the larger such camps are the greater is the experience obtained, and on this account such camps cannot be of too frequent occurrence. But, on the other hand, as the instruction to be gained by staff officers and the larger unit commanders increases with the size of the forces, so the instruction obtainable by regimental officers and the rank and file decreases in exactly the same ratio.

Regimental officers can only obtain instruction of any value when they are either in command of an independent force, or of such an important unit in an independent force, that they can see what is taking place and actively participate in the general plan. The rank and file can only obtain any instruction when they are actually in contact with the enemy.

Now, except with the smallest bodies of troops, when once the two forces have come into actual contact, matters at once become unreal and often ridiculous, and the unreality increases with the size of the bodies engaged. I should therefore advocate certainly, so far as dismounted troops are concerned, all camps of exercise being confined to manœuvring alone, the disposal of a brigade for the attack being considered as the most that was necessary, the umpires deciding whether the attack could have been pressed home or not. Such a course would give staff officers, brigadiers and commanding officers all the experience obtainable from such camps, while it would not mislead the men by allowing them to get into the ridiculous positions which are so frequent at camps of exercise. A commanding officer's actual command ceases nowadays when once his battalion is extended for the attack, and umpires cannot be found in sufficient numbers to prevent the ridiculous occurrences which take place when the extended lines press forward on the defence.

Battalion field days and the independent manœuvring of small bodies such as I have suggested above would give ample instruction to the company officer and the rank and file.

For cavalry as an arm of contact the present camps are admirably suited, but there is one little modification as regards cavalry scouts which I think would be found of value. Cavalry scouts often obtain information at manœuvres by riding up to a position in a way they could not do on service. To obviate this, I would recommend men being concealed by the umpires at the distance from the position they consider the nearest scouts could approach. On scouts approaching them, these men should show themselves and display a white flag. The scouts would then have to retire having gained the only information they would have been able to obtain on active service, namely, that the position was occupied by a force of unknown strength. Of course a scout who succeeded in working up unseen would still be able to bring back any further information acquired.

Less office work and all the practice they can obtain under circumstances as nearly similar to service conditions is what is desirable for our staff officers.

DEPARTMENTAL OFFICERS.

Taking staff officers as a whole they regard the real objects and aims of their work as being more important than the formalities. If they bend their necks to the yoke of red-tape and routine they do so unwillingly and only because circumstances are too strong for them. Occasionally of course one finds a staff officer who has become a willing victim and bondsman of red-tape, but he is the exception.

In departments red-tape and routine are so strong that even officers of the strongest individuality and greatest energy become slaves of the system. At first they may struggle to free themselves, but the struggle is a hopeless one, and even the strongest and the most energetic in the end resign themselves to the inevitable. They soon find that the resistance of a department resembles the resistance of a semi-fluid mass: push it aside and it yields so long only as the pressure remains, to close up again as it is withdrawn. The mass itself does not yield; it merely regains elsewhere what it lost where pushed aside. Departmental work is hedged round with rules, regulations and clumsy precautions against fraud which multiply the clerical work a hundredfold, and demand so much attention that a departmental officer has his attention and his time forcibly diverted from what should be the real object of his work.

What an officer may spend is budgetted for and allotted to specific purposes the previous year. What he may issue is carefully governed by scale. As a rule he has no discretionary power to exceed either. If he belongs to the accounts department, the expenditure he may pass is only that authorized by specific regulations.

Such surroundings naturally have their results in what may be called the departmental attitude. "The rights or wrongs of the necessity or the urgency of a demand is of no departmental concern; without a specific regulation or special sanction we can do nothing." What result would such an attitude have on service? What training does departmental routine give departmental officers for service?

The departmental officer is the victim of circumstances. Without entire change in the circumstances any change in the departmental officer is impossible.

I firmly believe that entire change in the machinery of departments is possible, and that such change would be in every way for the benefit of the army, but the space I have at my disposal is small and the question too large to approach in this article.

CLASSES AND COURSES.

I have seen the suggestion put forward pretty frequently that the shortcomings of officers would be best remedied by causing them to

undergo periodical courses and examinations. Such a panacea can only recommend itself to those who are not intimately acquainted with what is really required of an officer. If military proficiency could be acquired by the study of its theory alone and if officers could be filled with knowledge much in the way that a sausage is stuffed with meat, such courses and examinations would doubtless have the best results.

But experience and practice more than theory are what an officer requires. The book-work and theory of a soldier's profession are small in themselves and of far less value than practical experience.

Of the recognized subjects of a soldier's education, topography, military engineering, military law, and organization are, so far as an ordinary officer is concerned, finite subjects which can easily be mastered. Tactics, with which should be combined strategy and logistics, are a considerably wider field, but the fact that many books are written on these subjects does not imply that each book expands or amplifies the information contained in another. The majority are merely repetitions of each other, and an officer who had studied one or two of the best would probably find that he acquired little further information from the perusal of many more. Military history, and with it a study of the ruses and expedients that have proved successful in the past is, of course, a field which has practically no limits, and in this there is always something fresh and something valuable for an officer to learn.

Dr. Miller Maguire in his answers to the Committee on Military Education says :—"I venture to say that an officer, however rich, who spent £20 a year on military literature would be laughed at by all his friends, several generals included."

I venture to think it would be extremely difficult for an officer profitably to expend even £5 a year on professional books, other than those on the subject of military history, and even then, after the first year or two, a large portion of his money would be expended in purchasing information already on his book case in another form.

Great generals are born, not made, and however desirable it may be that all our junior officers should be Napoleons in embryo, we know that such a hope is utopian and it is infinitely more to our purpose to aim at so training our officers that they should be thoroughly competent to carry out whatever duties active service may require them to perform. Such competency will not be acquired by reading, alone by study we can quite safely trust our embryo Napoleons to complete their own education themselves by study.

What our officers really require is opportunity for putting in practice what they learn in theory. Many men, probably the majority, are incapable of remembering or of even realizing what they learn only from books. It is hopeless to teach a man, say, the principles of hill fighting in theory alone, and ten years later to call on him for the first time to put these principles into practice. Even if he ever

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I venture to think it would be extremely difficult for an officer profitably to expend even £5 a year on professional books, other than those on the subject of military history, and even then, after the first year or two, a large portion of his money would be expended in purchasing information already on his book case in another form.

Great generals are born, not made, and however desirable it may be that all our junior officers should be Napoleons in embryo, we know that such a hope is utopian and it is infinitely more to our purpose to aim at so training our officers that they should be thoroughly competent to carry out whatever duties active service may require them to perform. Such competency will not be acquired by reading, alone by study we can quite safely trust our embryo Napoleons to complete their own education themselves by study.

What our officers really require is opportunity for putting in practice what they learn in theory. Many men, probably the majority, are incapable of remembering or of even realizing what they learn only from books. It is hopeless to teach a man, say, the principles of hill fighting in theory alone, and ten years later to call on him for the first time to put these principles into practice. Even if he ever

No officer under the rank of field officer learns anything from a camp of exercise: he is never in a position in which he can see what is happening. The small independent self-managed manœuvre, I suggest, would not only be invaluable experience for all concerned, but they would force the officers engaged to take that interest in what is being done that is so non-existent in all camps of exercise and without which no instruction or profit can be obtained.

If every officer of five years' service were given such an independent command once a year or once every two years, we should very soon hear no more of our officers being unable to handle their men or look after them.

In the staff corps young officers are very early thrown into the position of independent command and of having to provide for all the needs of their men and with the happiest results.

IV.—STAFF OFFICERS.

The duties of staff officers are multitudinous, and it is not easy to epitomise them. The army exists and is trained with the view to the object of service in the field; the main duty of staff officers should therefore, be those they are required to perform on active service. On service a general formulates the general idea of his intention, and it is the duty of his staff to work out the details of his plans and see them carried out.

On working out such details, the following are some of the points which require attention: The selection of camps with due regard to defence, health and convenience, arrangements for water and for watering and grazing animals, and for the dispositions of gear on the march and the posting of piquets on arrival. The order of march and the timing of the departure of each unit, arrangements for baggage and for the movements of the supply train and for conveyance to replenish supplies.

Various factors, such as the propinquity and character of the enemy, the number of hours of daylight, the climate, the nature of the roads and their state, the existence of defiles and places difficult to cross, occur in all such problems and prevent them being worked out by mere book-work formulae.

In an action the synchronised movement of troops with its necessary fatigue to any unit, the recommendation after the engagement, the selection of the bivouac, the moving up of the supply, perhaps of tents, the removal of the sick and wounded towards the base—all such are duties, the details of which must be worked out and arranged by the staff.

Of course many such matters are arranged by the general himself personally, but a staff officer to be of any use to his general must be prepared at any time, in the event of his having received no special instructions, to cope with any of the items I have detailed above.

To carry out such work, a staff officer requires knowledge of details, common sense and resource, and, above all, experience and practice. Common sense and resource may be inborn, knowledge of details may be acquired by study and observation, but practice and experience can only be attained by actual work under similar or as nearly as possible similar circumstances.

Consensus of opinion has thrown the chief blame for our failure in South Africa on the staff, but before casting the blame on individuals, it is only fair to ask—what training to prepare him to meet his active service responsibilities does a staff officer receive in his normal tour of duty in a district or station? In peace time the life of a staff officer is mainly spent in his office or in attendance on his general on inspection duty or as a spectator or umpire at field days.

Usually, on field days a scheme is prepared and the staff officer having detailed the opposing forces and their commanders and fixed the hour and place of rendezvous of each, joins his general and watches the operations as a spectator. The problems it would be his duty to solve on service are either absent or their solution is delegated to others. Even on a ceremonial parade, unless by chance there are two brigades, the actual placing of the troops on the ground is delegated to brigade majors appointed for the day. Usually cantonment roads are so wide there is no difficulty about troops concentrating simultaneously at any given spot, but even when a railway crossing or a narrow bazaar through which all would have to pass intervened, I have never seen the time at which the various corps had either to leave their parade ground or arrive at the "defile" inserted in orders. Yet such arrangements, especially if transport were also concerned, would be merely practice for one of the most important duties on service.

The clerical and routine work of a staff office is so great, and occupies so much of a staff officer's time, that he is forced to treat it, even if he does not come to regard it, as the end-all and be-all of his existence.

The correctness of returns, the proper forms of rolls required to be submitted, are matters which must be checked in his office and the most recent orders contained in G. O. C. C.'s, Command Orders or Army Circulars regarding the form or the wording of such rolls and returns strictly adhered to. All correspondence with the district, the command or army head-quarters must pass through his hands, whether it be of local interest or not.

In some cases this is desirable, in the majority it only entails extra clerical labour, extra delay. Even in matters which have no local concern, explanations have often to be submitted by the officer originating the correspondence, not for the information of the officer ultimately aimed at, but for the information of the intervening staff officers, when by direct correspondence the matter could be speedily and conveniently settled. With practically the whole of his time devoted

to clerical work, and his mind concentrated on avoiding having correspondence or returns "sent back" for some petty irregularity it is hardly to be wondered at that staff officers occasionally settle down to a career little removed from that of a clerk. In fact, a staff officer has to fight against his surroundings if he is not to let them overcome his personality and his understanding of the proper duties of his post.

As with the regimental officer, so with the staff officer, responsibility makes for the destruction of the proper view he should take of his profession and his part in it.

Of course officers can obtain a theoretical knowledge of their profession by reading, and staff officers as a rule study their profession earnestly, but it is as hopeless to acquire practical knowledge of staff duties on service from reading alone, as it is to learn swimming without entering the water.

Most of us could quote instances of mistakes on the part of the staff. It is only human to make mistakes, and it is hard for the staff officer unless he has the fortune to acquire his experience from the mistakes of others, not to make mistakes.

In fact, I may go further and say that proficiency and experience can only be acquired from the example of mistakes, and the man is happy who can acquire his experience from the mistakes of others alone.

Mistakes during peace time are seldom of great moment, on service they may be fatal. It is all the more necessary, therefore, that staff officers should be given every opportunity in peace of training under circumstances as similar as possible to those on service, but the ordinary routine of a staff officer's duties gives him no such experience or practice.

The best means of peace instruction are staff rides when conducted by a thoroughly capable officer who has had experience on service, and can therefore add to the actual conditions of the day and place such imaginary conditions and difficulties as would obtain on service. Even an officer who has had actual experience from the working out or the consideration of such problems a most profitable exercise, while those to whom they are novel find them invaluable. Yet staff officers appear but seldom to take part in staff rides: either their services cannot be spared, or they are considered to require none of the instruction or exercise that is to be obtained from them. As I have pointed out, the part they take in manoeuvres round cantonments is, as a rule, a very small one.

Although useless as a means of instruction for regimental officers and rank and file, camps of exercise give admirable opportunities for the training of staff officers, and it is a great pity that more of the executive appointments at these camps are not filled by actual staff officers.

The value of camps of exercise in giving staff officers and the commanders of the larger units experience in the handling and manœuvring of large bodies of troops is inestimable, and the larger such camps are the greater is the experience obtained, and on this account such camps cannot be of too frequent occurrence. But, on the other hand, as the instruction to be gained by staff officers and the larger unit commanders increases with the size of the forces, so the instruction obtainable by regimental officers and the rank and file decreases in exactly the same ratio.

Regimental officers can only obtain instruction of any value when they are either in command of an independent force, or of such an important unit in an independent force, that they can see what is taking place and actively participate in the general plan. The rank and file can only obtain any instruction when they are actually in contact with the enemy.

Now, except with the smallest bodies of troops, when once the two forces have come into actual contact, matters at once become unreal and often ridiculous, and the unreality increases with the size of the bodies engaged. I should therefore advocate certainly, so far as dismounted troops are concerned, all camps of exercise being confined to manœuvring alone, the disposal of a brigade for the attack being considered as the most that was necessary, the umpires deciding whether the attack could have been pressed home or not. Such a course would give staff officers, brigadiers and commanding officers all the experience obtainable from such camps, while it would not mislead the men by allowing them to get into the ridiculous positions which are so frequent at camps of exercise. A commanding officer's actual command ceases nowadays when once his battalion is extended for the attack, and umpires cannot be found in sufficient numbers to prevent the ridiculous occurrences which take place when the extended lines press forward on the defence.

Battalion field days and the independent manœuvring of small bodies such as I have suggested above would give ample instruction to the company officer and the rank and file.

For cavalry as an arm of contact the present camps are admirably suited, but there is one little modification as regards cavalry scouts which I think would be found of value. Cavalry scouts often obtain information at manœuvres by riding up to a position in a way they could not do on service. To obviate this, I would recommend men being concealed by the umpires at the distance from the position they consider the nearest scouts could approach. On scouts approaching them, these men should show themselves and display a white flag. The scouts would then have to retire having gained the only information they would have been able to obtain on active service, namely, that the position was occupied by a force of unknown strength. Of course a scout who succeeded in working up unseen would still be able to bring back any further information acquired.

Less office work and all the practice they can obtain under circumstances as nearly similar to service conditions is what is desirable for our staff officers.

DEPARTMENTAL OFFICERS.

Taking staff officers as a whole they regard the real objects and aims of their work as being more important than the formalities. If they bend their necks to the yoke of red-tape and routine they do so unwillingly and only because circumstances are too strong for them. Occasionally of course one finds a staff officer who has become a willing victim and bondsman of red-tape, but he is the exception.

In departments red-tape and routine are so strong that even officers of the strongest individuality and greatest energy become slaves of the system. At first they may struggle to free themselves, but the struggle is a hopeless one, and even the strongest and the most energetic in the end resign themselves to the inevitable. They soon find that the resistance of a department resembles the resistance of a semi-fluid mass: push it aside and it yields so long only as the pressure remains, to close up again as it is withdrawn. The mass itself does not yield; it merely regains elsewhere what it lost when pushed aside. Departmental work is hedged round with rules, regulations and clumsy precautions against fraud which multiply the clerical work a hundredfold, and demand so much attention that a departmental officer has his attention and his time forcibly diverted from what should be the real object of his work.

What an officer may spend is budgetted for and allotted to specific purposes the previous year. What he may issue is carefully governed by scale. As a rule he has no discretionary power to exceed either. If he belongs to the accounts department, the expenditure he may pass is only that authorized by specific regulations.

Such surroundings naturally have their results in what may be called the departmental attitude. "The rights or wrongs of the necessity or the urgency of a demand is of no departmental concern without a specific regulation or special sanction we can do nothing." What result would such an attitude have on service? What training does departmental routine give departmental officers for service?

The departmental officer is the victim of circumstances. Without entire change in the circumstances any change in the departmental officer is impossible.

I firmly believe that entire change in the machinery of departments is possible, and that such change would be in every way for the benefit of the army, but the space I have at my disposal is small and the question too large to approach in this article.

CLASSES AND COURSES.

I have seen the suggestion put forward pretty frequently that the shortcomings of officers would be best remedied by causing them to

undergo periodical courses and examinations. Such a panacea can only recommend itself to those who are not intimately acquainted with what is really required of an officer. If military proficiency could be acquired by the study of its theory alone and if officers could be filled with knowledge much in the way that a sausage is stuffed with meat, such courses and examinations would doubtless have the best results.

But experience and practice more than theory are what an officer requires. The book-work and theory of a soldier's profession are small in themselves and of far less value than practical experience.

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What our officers really require is opportunity for putting in practice what they learn in theory. Many men, probably the majority, are incapable of remembering or of even realizing what they learn only from books. It is hopeless to teach a man, say, the principles of hill fighting in theory alone, and ten years later to call on him for the first time to put these principles into practice. Even if he ever

realized them he will certainly have forgotten them. A little of the principles of the famous Mr. Squeers would make a vast difference in the value of garrison classes.

The aim of garrison classes at causing officers to brush up periodically their knowledge of military subjects is admirable, but it must be remembered that garrison classes are only necessary because from want of incentive and opportunity to practice and keep up what they learnt at Sandhurst, the knowledge officers acquired there is either dormant or forgotten. The arbitrament of whether an officer has taken advantage of his course of study at a garrison class or not is, of course, the final examination, and it is to be feared most officers go to garrison classes more with a view to learning how to answer the examination papers than to render themselves more proficient in their profession. While the results of the examinations are the tests of the efficiency or otherwise of the instructors, it is difficult to see how they can refrain from teaching their pupils with a view mainly to their doing well in the examinations.

However intimately an officer might know any branch of the garrison course curriculum, so much depends on the carrying of data and unimportant facts in the memory, I think he would find the greatest difficulty in passing the final examination in it without specially preparing himself.

The remarks I have made regarding the course at Sandhurst apply equally to garrison classes; it is sheer waste of time requiring an officer to learn anything by heart which he is either unlikely to remember or which he can look up for himself whenever he requires the information.

In his preface to the War in the Peninsula, Napier refers to "The received maxims and established principles of war." If examinations are allowed to be a test of memory it is obvious that a thorough knowledge of a text-book containing such maxims and principles would be of the greatest value. So far as I know no text-book prescribed either for Sandhurst or for garrison classes contains them.

Beyond this a much deeper study at logistics than is comprised in a few data regarding movements of bodies of troops of normal strength under normal conditions is eminently desirable.

Mr. Phillpotts suggests the compilation of a "good text book enumerating the various stratagems and ruses that have been adopted in war." I cannot imagine a more valuable book for garrison class study.

We have garrison classes at regular intervals throughout the year and occasional staff rides during the cold weather. It is curious that a combination of the two has never been carried out. I shall always be grateful to the officer under whom I took part in a staff ride a few years ago, when I learnt ten times the amount either Sandhurst or garrison classes had taught me.

From my experience on that occasion I would strongly advocate staff rides lasting for, say, three weeks or a fortnight, being held at the conclusion of every garrison class, and I should go so far as to substitute them for the present examinations, the orders, appreciations, schemes and sketches of each officer being daily criticised and corrected publicly for the general information and officers who have done satisfactorily on the whole, considered to have passed.

The only points which should be considered in sketches, both topographical and engineering, should be clearness and correctness, and, to a smaller extent, neatness.

The instructor would naturally suggest such conditions as would require the class to utilize with common sense what they had been taught during the course. A fortnight's experience of this nature would not only show officers the practical application of the textbook theory, but it would impress what they had learnt upon their memory.

With the extra subjects I suggest, and with a staff ride substituted for the final examination, I think officers would obtain lasting benefit from garrison courses. If a final examination is still required it should consist of such questions as involve no cramming of data to answer, or else candidates should be allowed to make use of such pocket books as they might reasonably be expected to have with them on service.

As I am not a graduate of the staff college, I feel little qualified to criticize the instruction given there, but it is difficult to see how at such an institution it can be otherwise than theoretical. To an officer who has seen active service and has experienced the accidental factors which are the real difficulties of warfare, and which bulk so largely in all calculations and all movements, the information he acquires at the staff college must be invaluable, but I am doubtful if an officer who has not experienced such difficulties can derive full benefit from the staff college course. It appears to me desirable on this account to make the entrance to the college easier for those who have seen service than for those who have not. With this in view I would allow an officer to count a certain number of marks for each clasp, medal or order, or mention in despatches he has earned.

From my experience of staff college men the course seems rather to foster the elaboration of the unnecessary.

I remember seeing a sketch made at the Staff College; it was a sketch which 99 officers out of 100 would have been very proud to have made, but it was scribbled all over with pencil remarks by the professor of topography, not one of which reflected on its accuracy or its utility, but which were all regarding the colouring, the washes or the drawing of the conventional signs and the marginal sketches.

If such attention to unnecessary detail is insisted upon in other subjects of the course, the result can only be harmful as inculcating an attitude of mind which a staff officer should be the last to acquire.

The only course which an officer is practically compelled to go through is the musketry course. It is many years since I took my extra certificate, but my experience will be valuable as showing the nature of the instruction, and what was considered to be practical efficiency in those days.

I belong to a native regiment armed with the Snider. My instruction consisted mainly in learning the firing exercise, the specification, and the various lectures for the Martini-Henry by heart in England, and firing my course with it. I learnt by heart the position drill of the day and was required to be absolutely perfect in it myself and to require absolute perfection in it from my squad (the year was 1885, perhaps some musketry expert can tell me how often it has been changed since then?).

Every thing I learnt had to be by heart with the exception of the extra subject, the only interesting part of the whole course but entirely useless to an ordinary officer. At the conclusion of the class I passed extremely well, making a very high percentage of marks, and not 5 per cent. of the knowledge I acquired has ever been of the slightest use to us. What I did learn of value could easily have been taught me in a week.

This course is very typical of how we have trained an officer in the past. Is it to be wondered at that officers so trained are not at once prepared to shake themselves free from the old Shibboleths, to recognize the real value of the trivialities and to neglect them and to work solely with an eye to the real object which they have in view.

This is the key to the shortcomings of our officers, but our officers are creatures of a system, and it is those who created the system and thus made our officers what they are, who are now surprised that the system has killed in them all initiative, resource and independence.

VII.—REGULATIONS.

Some ten years ago I applied for and received five books of regulations.

Struck by the bulk of the corrections which accompanied the books, I had the curiosity to weigh both. The books themselves weighed 14 lbs. 5½ oz., the corrections 4 lbs 8 ozs. Deducting the weight of binding, the corrections must have weighed well over a third of the weight of the original matter.

Regulations are doubtless intended to insure absolute uniformity of action in all military matters, and they attempt to do so by providing specific directions not for every circumstance, which would be difficult, but for every possible combination of circumstances, which is impossible. The attempt, however, has the result of making the regulations clumsy, cumbersome and confused to a degree.

The circumstances of military life do not change with great rapidity, and it is reasonable to expect that in normal matters there should be some finality, general principles being laid down for ordinary cases and abnormal cases being left to be decided as they occur by being referred to a higher authority who should be left either to decide them himself or pass them up for decision to still higher authority as circumstances required.

With regulations based on the idea of giving general directions for guidance only, and giving officers of various positions discretionary powers according to their standing to dispose of such abnormal cases as occur, the boon would be welcomed by every officer in India. The result of the existing regulations is to render the use of common-sense a very secondary matter compared with the exact compliance with minute directions. But few officers can keep them in their heads and they are compelled in consequence to depend on their head clerks.

The result of course is undesirable in the extreme, as instead of acting on their own initiative and exercising their powers of judgment and common sense as they are called on to do on active service they are in peacetime taught to rely on minute and specific directions which are not forthcoming on service, and the training is the worst possible.

Reforms in many matters have taken place in the army of late years, but concurrently with these reforms regulations have gone on increasing and multiplying till most officers have lost all grasp of them. Fifteen years ago it was a comparatively simple matter for an officer to have a thorough working knowledge of all the regulations that concerned him, but now let him master a new book of regulations and then go home for six months. On his return he will find the book a mass of corrections upon corrections which he can only follow by carefully noting the date attached to each. I cannot imagine anything more calculated to make an officer who conscientiously endeavours to keep abreast of the regulations a creature of red-tape and routine.

If my suggestion for a complete change in the system and spirit of regulations is too drastic, a lesser boon, and one which would not be very difficult to carry out, would be to re-print each page on which a correction occurs so that it might be pasted on over the amended page and the numerous and confusing slips would thus be avoided.

In peace time multiplicity of regulations accustom officers to await specific directions instead of relying on their own judgment and acting with a view only to the end. In cantonments this ensures uniformity, but it is fatal to the spirit in which officers should approach their work on service when, as a rule, they must exercise their judgment and common sense alone.

A certain number of regulations are necessary at all times, multiplicity of regulations is inconvenient in peace time and fatal as a preparation for service.

VIII.—CONCLUSION.

Want of space has compelled me to omit some remarks on examinations, professional study by officers and expenses of officers, and also obliges me to reduce to their narrowest limits my concluding remarks. Our officers may be weak in theoretical knowledge of their profession, but their real weakness lies in their want of experience in putting in practice what they have learnt in theory. For this our system, which in peace time allows them no independent command, and no latitude of action, and which never throws them on their own resources or allows them to act as they would have to do on active service, is to blame.

Formalities, Shibboleths, limitations and regulations hem our officers round, limit their action and divert their minds from the real objects of their profession.

Courses, classes, military colleges and examinations will do nothing to cure such ills: they are more likely to accentuate the evil than to eliminate it.

Brush aside such formalities as have now no meaning, substitute for our regulations, whenever practicable, general directions, which require the exercise of commonsense to put them in practice, and train our officers in peace time to use the faculties that will be required from them in time of war. Place them in peace time on their own responsibility in as similar circumstances as possible to those of service, and their peace training will compel them to acquire and keep up all the theoretical knowledge of their profession that is necessary for them.

If we train our officers on these lines we shall find them proficient at the commencement of our next campaign, instead of, as hitherto, only at the end.

UNITED SERVICE INSTITUTION OF INDIA.

NOTICE.

It is notified for information that the annual award of premia for articles contributed to the Journal has been increased to Rs. 1,500.

The Council will be glad to receive, and consider for publication in the Journal, papers on the following subjects, and any others of military interest :—

1. The tactical employment of Field Artillery and Mountain Artillery with Infantry.

2. The rôle of Infantry in defence of coast fortresses and defended ports.

3. Comparative study of systems of military administration of three great Powers as compared with our own in India.

4. The consideration of the equipment (excluding arms and ammunition), baggage, food, and shelter, necessary for men and horses in war under varying conditions, with a view to maintaining their health and efficiency and reducing unnecessary impedimenta.

5. The value in the Field of a highly mobile force, specially organized with a view to distant raids, its training, organization and equipment.

6. The difficulties imposed by smokeless powder and long range weapons on reconnaissance of an enemy's position in particular, with suggestions for meeting the same.

7. The tactical employment of Pompoms and Machine Guns with :—

A. Cavalry.

B. Mounted Infantry.

8. The most suitable method of training British and Native Soldiers as Despatch Riders and Field Messengers.

9. The best way of training officers for employment as Railway Staff Officers more especially on Indian Railways.

By order of the Council,

R. G. BURTON, *Major,*

*Secretary, United Service Institution of India,
Simla.*

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NO. 153.

THE CAMPAIGN IN KUMAON.

An Episode of the Nepal war.

BY MAJOR W. G. HAMILTON, D.S.O., NORFOLK REGIMENT.

SYLLABUS.

Declaration of War against Nepal in 1814.
The Gurkha Army.
Disposition of opposing forces.
Operations of 1st, 2nd, 3rd and 4th Divisions.
The operations in Kumaon : why initiated.
Colonel Gardner's force of irregulars.
Plan of Campaign.
Description of country.
Colonel Gardner's advance from Kashipur to Kumpur, 11th February to 28th February.
Arrival of reinforcements.
Advance to Katarmal, 23rd to 27th March.
Captain Hearsay's operations in Eastern Kumaon. His defeat near Champawat.
Arrival of regular troops under Nicolls at Katarmal.
Composition and strength of the force now assembled.
Action of Gananath, 23rd April.
Battle of Almora, 25th April.
Description of ground : Enemy's strength and positions.
Night attack by the Gurkhas.
Action of the Artillery.
Early morning of 26th.
Surrender of Almora and Evacuation of Kumaon.
The end of the War.

The war against Nepal in 1814 to 1816 was one of the most stubbornly contested of the many in which the Indian army has been engaged. It was marked by frequent reverses and regrettable incidents, though at the same time it was illuminated here and there by some operations as creditable as they were successful. With one of these I propose to deal this evening.

At the end of 1814, the Indian Government found itself compelled to declare war against Nepal, in consequence of deliberate and repeated encroachments on British territory, especially along the Terai. Now the kingdom of Nepal had originally consisted of a number of petty independent States, but about the middle of the eighteenth century, Prithinarain Sah, the ruler of one of these States, called Gurkha, which was situated to the west of Khatmandu, conquered his neighbours one by one, and formed a kingdom. From the name of this conquering State, the name "Gurkhas" (or people of Gurkha), contracted into "Gurkhas," came to be commonly applied to all the inhabitants of Nepal. The work of empire building was completed by Prithinarain's grandson, who also extended his conquests over Kumaon, and eventually over Garhwal. The latter country, owing to the gallant resistance of the people at the fort of Langurgarh near Srinaggur, and to successful invasions of Nepal by the Chinese, was not finally subdued till 1803. The Gurkhas rapidly carried their arms over all the hill country up to the Sutlej and pushed even to Kangra. Here, however they were checked, and when the war opened, the Sutlej may be taken as the western boundary of their effectual occupation.

The Gurkha army in 1814 has been estimated at 30,000 to 40,000 men, but a considerable proportion of this number were not men of Nepal, but came from Kumaon, Garhwal, and other hill districts to the west, commanded by Gurkha officers. An accurate estimate is of course impossible, but it is probable that two-thirds of the Gurkha forces operating in the western theatre of war were not true Gurkhas.

The Gurkha army was a formidable fighting force. They were regularly officered, organized in regiments and companies, well and regularly paid. They were dressed, armed, and drilled much as Europeans. They were armed with flint-lock muskets, the common weapon of the infantry soldier of those days, but many of these muskets were of local manufacture and poor quality, which created always a difficulty about flints, which had to be imported. Owing perhaps to these shortcomings, the Gurkhas were very partial to hand-to-hand fighting with the *katri*, the national weapon carried by all, a few small guns were used in forts, but the Gurkhas made no use of artillery in the field. Considered individually, the Gurkhas were undoubtedly the stuff soldiers are made of. The majority were veterans, fighters off and on for fifteen years, all naturally brave, active, enduring, of indomitable courage, headlong in attack, firm to defend, and ever constant in the face of reverses. Their leaders showed

realized them he will certainly have forgotten them. A little of the principles of the famous Mr. Squeers would make a vast difference in the value of garrison classes.

The aim of garrison classes at causing officers to brush up periodically their knowledge of military subjects is admirable, but it must be remembered that garrison classes are only necessary because from want of incentive and opportunity to practice and keep up what they learnt at Sandhurst, the knowledge officers acquired there is either dormant or forgotten. The arbitrament of whether an officer has taken advantage of his course of study at a garrison class or not is, of course, the final examination, and it is to be feared most officers go to garrison classes more with a view to learning how to answer the examination papers than to render themselves more proficient in their profession. While the results of the examinations are the tests of the efficiency or otherwise of the instructors, it is difficult to see how they can refrain from teaching their pupils with a view mainly to their doing well in the examinations.

However intimately an officer might know any branch of the garrison course curriculum, so much depends on the carrying of data and unimportant facts in the memory, I think he would find the greatest difficulty in passing the final examination in it without specially preparing himself.

The remarks I have made regarding the course at Sandhurst apply equally to garrison classes; it is sheer waste of time requiring an officer to learn anything by heart which he is either unable to remember or which he can look up for himself whenever he requires the information.

In his preface to the *War in the Peninsula*, Napier refers to "The received maxims and established principles of war." If examinations are allowed to be a test of memory it is obvious that a text-book knowledge of a text-book containing such maxims and principles would be of the greatest value. So far as I know no text-book prescribed either for Sandhurst or for garrison classes contains them.

Beyond this a much deeper study at logistics than is comprised in a few data regarding movements of bodies of troops of regular strength under normal conditions is eminently desirable.

Mr. Phillpotts suggests the compilation of a "good text-book enumerating the various stratagems and ruses that have been adopted in war." I cannot imagine a more valuable book for garrison class study.

We have garrison classes at regular intervals throughout the year and occasional staff rides during the cold weather. It is curious that a combination of the two has never been carried out. I shall always be grateful to the officer under whom I took part in a staff ride a few years ago, when I learnt ten times the amount either Sandhurst or garrison classes had taught me.

From my experience on that occasion I would strongly advocate staff rides lasting for, say, three weeks or a fortnight, being held at the conclusion of every garrison class, and I should go so far as to substitute them for the present examinations, the orders, appreciations, schemes and sketches of each officer being daily criticised and corrected publicly for the general information and officers who have done satisfactorily on the whole, considered to have passed.

The only points which should be considered in sketches, both topographical and engineering, should be clearness and correctness, and, to a smaller extent, neatness.

The instructor would naturally suggest such conditions as would require the class to utilize with common sense what they had been taught during the course. A fortnight's experience of this nature would not only show officers the practical application of the text-book theory, but it would impress what they had learnt upon their memory.

With the extra subjects I suggest, and with a staff ride substituted for the final examination, I think officers would obtain lasting benefit from garrison courses. If a final examination is still required it should consist of such questions as involve no cramming of data to answer, or else candidates should be allowed to make use of such pocket books as they might reasonably be expected to have with them on service.

As I am not a graduate of the staff college, I feel little qualified to criticize the instruction given there, but it is difficult to see how at such an institution it can be otherwise than theoretical. To an officer who has seen active service and has experienced the accidental factors which are the real difficulties of warfare, and which bulk so largely in all calculations and all movements, the information he acquires at the staff college must be invaluable, but I am doubtful if an officer who has not experienced such difficulties can derive full benefit from the staff college course. It appears to me desirable on this account to make the entrance to the college easier for those who have seen service than for those who have not. With this in view I would allow an officer to count a certain number of marks for each clasp, medal or order, or mention in despatches he has earned.

From my experience of staff college men the course seems rather to foster the elaboration of the unnecessary.

I remember seeing a sketch made at the Staff College; it was a sketch which 99 officers out of 100 would have been very proud to have made, but it was scribbled all over with pencil remarks by the professor of topography, not one of which reflected on its accuracy or its utility, but which were all regarding the colouring, the washes or the drawing of the conventional signs and the marginal sketches.

If such attention to unnecessary detail is insisted upon in other subjects of the course, the result can only be harmful as inculcating an attitude of mind which a staff officer should be the last to acquire.

The only course which an officer is practically compelled to go through is the musketry course. It is many years since I took the extra certificate, but my experience will be valuable as showing the nature of the instruction, and what was considered to be practical efficiency in those days.

I belong to a native regiment armed with the Snider. My instruction consisted mainly in learning the firing exercise, the specification, and the various lectures for the Martini-Henry by heart in England, and firing my course with it. I learnt by heart the position drill of the day and was required to be absolutely perfect in it myself and to require absolute perfection in it from my squad (the year was 1885, perhaps some musketry expert can tell me how often it has been changed since then?).

Every thing I learnt had to be by heart with the exception of the extra subject, the only interesting part of the whole course but entirely useless to an ordinary officer. At the conclusion of the class I passed extremely well, making a very high percentage of marks, and not 5 per cent. of the knowledge I acquired has ever been of the slightest use to us. What I did learn of value could easily have been taught me in a week.

This course is very typical of how we have trained an officer in the past. Is it to be wondered at that officers so trained are not at once prepared to shake themselves free from the old Snider drill, to recognize the real value of the trivialities and to neglect them and to work solely with an eye to the real object which they have in view.

This is the key to the shortcomings of our officers, but our officers are creatures of a system, and it is those who created the system and thus made our officers what they are, who are now surprised that the system has killed in them all initiative, resource and independence.

VII.—REGULATIONS.

Some ten years ago I applied for and received five books of regulations.

Struck by the bulk of the corrections which accompanied the books, I had the curiosity to weigh both. The books themselves weighed 14 lbs. 5½ oz., the corrections 4 lbs 8 ozs. Defecting the weight of binding, the corrections must have weighed well over a third of the weight of the original matter.

Regulations are doubtless intended to insure absolute uniformity of action in all military matters, and they attempt to do so by providing specific directions not for every circumstance, which would be difficult, but for every possible combination of circumstances, which is impossible. The attempt, however, has the result of making the regulations clumsy, cumbersome and confused to a degree.

The circumstances of military life do not change with great rapidity, and it is reasonable to expect that in normal matters there should be some finality, general principles being laid down for ordinary cases and abnormal cases being left to be decided as they occur by being referred to a higher authority who should be left either to decide them himself or pass them up for decision to still higher authority as circumstances required.

With regulations based on the idea of giving general directions for guidance only, and giving officers of various positions discretionary powers according to their standing to dispose of such abnormal cases as occur, the boon would be welcomed by every officer in India. The result of the existing regulations is to render the use of common-sense a very secondary matter compared with the exact compliance with minute directions. But few officers can keep them in their heads and they are compelled in consequence to depend on their head clerks.

The result of course is undesirable in the extreme, as instead of acting on their own initiative and exercising their powers of judgment and common sense as they are called on to do on active service they are in peace time taught to rely on minute and specific directions which are not forthcoming on service, and the training is the worst possible.

Reforms in many matters have taken place in the army of late years, but concurrently with these reforms regulations have gone on increasing and multiplying till most officers have lost all grasp of them. Fifteen years ago it was a comparatively simple matter for an officer to have a thorough working knowledge of all the regulations that concerned him, but now let him master a new book of regulations and then go home for six months. On his return he will find the book a mass of corrections upon corrections which he can only follow by carefully noting the date attached to each. I cannot imagine anything more calculated to make an officer who conscientiously endeavours to keep abreast of the regulations a creature of red-tape and routine.

If my suggestion for a complete change in the system and spirit of regulations is too drastic, a lesser boon, and one which would not be very difficult to carry out, would be to re-print each page on which a correction occurs so that it might be pasted on over the amended page and the numerous and confusing slips would thus be avoided.

In peace time multiplicity of regulations accustom officers to await specific directions instead of relying on their own judgment and acting with a view only to the end. In cantonments this ensures uniformity, but it is fatal to the spirit in which officers should approach their work on service when, as a rule, they must exercise their judgment and common sense alone.

A certain number of regulations are necessary at all times, multiplicity of regulations is inconvenient in peace time and fatal as a preparation for service.

VIII.—CONCLUSION.

Want of space has compelled me to omit some remarks on examinations, professional study by officers and expenses of officers, and also obliges me to reduce to their narrowest limits my concluding remarks. Our officers may be weak in theoretical knowledge of their profession, but their real weakness lies in their want of experience in putting in practice what they have learnt in theory. For this our system, which in peace time allows them no independent command, and no latitude of action, and which never throws them on their own resources or allows them to act as they would have to do on active service, is to blame.

Formalities, Shibboleths, limitations and regulations hem our officers round, limit their action and divert their minds from the real objects of their profession.

Courses, classes, military colleges and examinations will do nothing to cure such ills: they are more likely to accentuate the evil than to eliminate it.

Brush aside such formalities as have now no meaning, substitute for our regulations, whenever practicable, general directions, which require the exercise of commonsense to put them in practice, and train our officers in peace time to use the faculties that will be required from them in time of war. Place them in peace time on their own responsibility in as similar circumstances as possible to those of service, and their peace training will compel them to acquire and keep up all the theoretical knowledge of their profession that is necessary for them.

If we train our officers on these lines we shall find them proficient at the commencement of our next campaign, instead of, as hitherto, only at the end.

UNITED SERVICE INSTITUTION OF INDIA.

NOTICE.

It is notified for information that the annual award of premia for articles contributed to the Journal has been increased to Rs. 1,500.

The Council will be glad to receive, and consider for publication in the Journal, papers on the following subjects, and any others of military interest :—

1. The tactical employment of Field Artillery and Mountain Artillery with Infantry.
2. The rôle of Infantry in defence of coast fortresses and defended ports.
3. Comparative study of systems of military administration of three great Powers as compared with our own in India.
4. The consideration of the equipment (excluding arms and ammunition), baggage, food, and shelter, necessary for men and horses in war under varying conditions, with a view to maintaining their health and efficiency and reducing unnecessary impedimenta.
5. The value in the Field of a highly mobile force, specially organized with a view to distant raids, its training, organization and equipment.
6. The difficulties imposed by smokeless powder and long range weapons on reconnaissance of an enemy's position in particular, with suggestions for meeting the same.
7. The tactical employment of Pompoms and Machine Guns with :—
 - A. Cavalry.
 - B. Mounted Infantry.
8. The most suitable method of training British and Native Soldiers as Despatch Riders and Field Messengers.
9. The best way of training officers for employment as Railway Staff Officers more especially on Indian Railways.

By order of the Council,

R. G. BURTON, *Major,*
Secretary, United Service Institution of India,
Simla.

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NO. 153.

THE CAMPAIGN IN KUMAON.

An Episode of the Nepal war.

BY MAJOR W. G. HAMILTON, D.S.O., NORFOLK REGIMENT.

SYLLABUS.

Declaration of War against Nepal in 1814.
The Gurkha Army.
Disposition of opposing forces.
Operations of 1st, 2nd, 3rd and 4th Divisions.
The operations in Kumaon : why initiated.
Colonel Gardner's force of irregulars.
Plan of Campaign.
Description of country.
Colonel Gardner's advance from Kashipur to Kumpur, 11th February to 28th February.
Arrival of reinforcements.
Advance to Katarmal, 23rd to 27th March.
Captain Hearsay's operations in Eastern Kumaon. His defeat near Champawat.
Arrival of regular troops under Nicolls at Katarmal.
Composition and strength of the force now assembled.
Action of Gananath, 23rd April.
Battle of Almora, 25th April.
Description of ground : Enemy's strength and positions.
Night attack by the Gurkhas.
Action of the Artillery.
Early morning of 26th.
Surrender of Almora and Evacuation of Kumaon.
The end of the War.

The war against Nepal in 1814 to 1816 was one of the most stubbornly contested of the many in which the Indian army has been engaged. It was marked by frequent reverses and regrettable incidents, though at the same time it was illuminated here and there by some operations as creditable as they were successful. With one of these I propose to deal this evening.

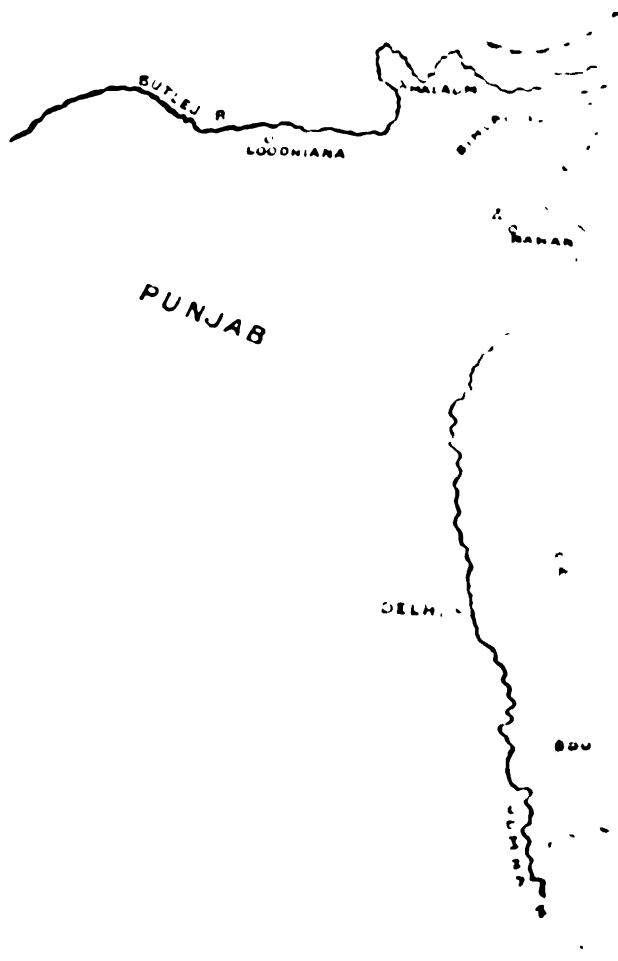
At the end of 1814, the Indian Government found itself compelled to declare war against Nepal, in consequence of deliberate and repeated encroachments on British territory, especially along the Terai. Now the kingdom of Nepal had originally consisted of a number of petty independent States, but about the middle of the eighteenth century, Prithinarain Sah, the ruler of one of these States, called Gurkha, which was situated to the west of Khatmandu, conquered his neighbours one by one, and formed a kingdom. From the name of this conquering State, the name "Gurkhalis" (or people of Gurkha), contracted into "Gurkhas," came to be commonly applied to all the inhabitants of Nepal. The work of empire building was completed by Prithinarain's grandson, who also extended his conquests over Kumaon, and eventually over Garhwal. The latter country, owing to the gallant resistance of the people at the fort of Langurgarh near Srinaggur, and to successful invasions of Nepal by the Chinese, was not finally subdued till 1803. The Gurkhas rapidly carried their arms over all the hill country up to the Sutlej and pushed even to Kangra. Here, however they were checked, and when the war opened, the Sutlej may be taken as the western boundary of their effectual occupation.

The Gurkha army in 1814 has been estimated at 30,000 to 40,000 men, but a considerable proportion of this number were not men of Nepal, but levies from Kumaon, Garhwal, and other hill districts to the west, commanded by Gurkha officers. An accurate estimate is of course impossible, but it is probable that two-thirds of the Gurkha forces operating in the western theatre of war were not true Gurkhas.

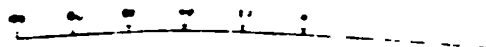
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Now the formidable nature of the Gurkha army was not, it must be remembered, fully taken into account before the war. Indeed, one officer who, having been a prisoner in Kumaon, had been brought into intimate connection with the Gurkhas only a year before, gave it as his opinion that the Gurkhas were not equal in value to the troops of Holkar of Indore, whom we had met and defeated not many years before. This officer was Captain Hearsay, about whom I shall have something to say later on.

Disposition of troops.

* See map I.

The army destined for the conquest of Nepal was organized and disposed as follows:—*

1st Division.—Under Major-General Marley, at Dinapore. Strength at first 6,000 men, afterwards raised to 13,000.

The objective of this force was to seize the pass at Makwanpur and advance on Khatmandu.

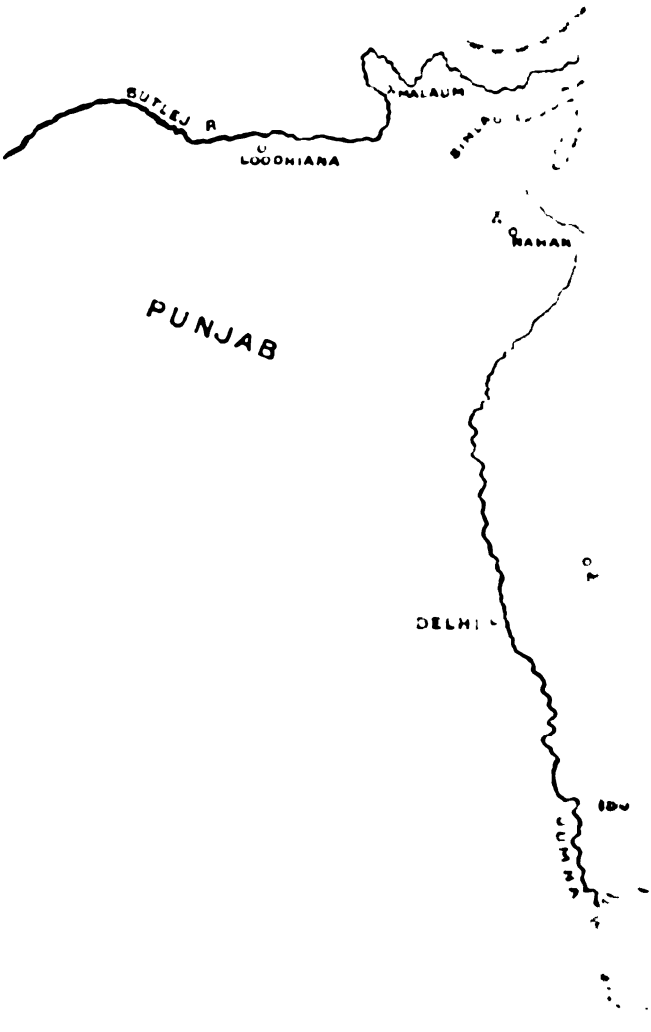
2nd Division.—Under Major-General Wood, at Benares, thence moving to Gorakhpur, strength about 30,000 men. The objective named was the Bhutwal pass, thence to move eastward, and co-operate with the 1st Division against Khatmandu.

3rd Division—Under Major-General Gillespie, concentrated at Meerut, strength 3,000 to 3,500 men, objective Dehra Dun, thence to operate to the eastward against Srinagar (Garhwal) or to the westward against Nahan, as circumstances might require.

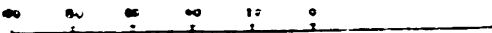
4th Division.—Under Major-General Ochterlony, concentrated at Ludhiana, the frontier station over against the dominions of Ranjit Singh. The strength of this force is variously stated at 3,000 men, and double that number. Like the other columns, it was probably reinforced from time to time. This Division was destined to move up the Sutlej, and operate against the Gurkha forces which were holding a series of forts and positions east of the Sutlej and south of Bilaspur.

The 3rd Division was the first to move towards the enemy, and occupied Dehra on the 22nd October, but, as a matter of convenience, I propose to deal briefly with the movements of the several Divisions, in numerical order. We shall then obtain a general idea of the course of events leading up to the campaign in Kumaon.

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three columns against the left of this disseminated line, vigorously attacked and routed an isolated party of 350 men. Simultaneously a wing of a regiment on the opposite flank was attacked and driven back. This was enough for Major-General Marley. He withdrew his army, though the strength of the Gurkhas opposed to him did not exceed 5,000 men, retired to Bettiah, and eventually on the 10th February he abandoned his army altogether, without notice, and without even handing over his command to any one. A few unimportant movements were carried out by his successor, who got the force up to the frontier again by the beginning of March, but the unhealthy season set in shortly after, and the force withdrew to cantonments.

The 2nd Division left Gorakhpur on the 13th December and reached the foot of the Bhutwal pass on the 31st. **Operations of 2nd Division.** On the 3rd January 1815, 2,000 men with guns on elephants, and 7 days' supply advanced to attack the Gurkhas in position, a strong party being detached to make a circuitous movement and take the enemy in rear. So far so good, but the main attack having omitted the desirable preliminary of careful reconnaissance, fell into an ambuscade in the jungle. The coolies carrying reserve ammunition threw it down and fled—the force fell into confusion, and although hard fighting on the part of some enabled the force to retire without absolute disaster, considerable loss was sustained, and the operation failed altogether. The turning party, although it had reached its objective in rear of the enemy, was obliged to retire on the failure of the direct attack.

The 2nd Division now stood fast and did nothing for three months, awaiting the arrival of a battering train of artillery. When this appeared, a half-hearted attempt was made to cross the river flowing past Bhutwal town, but after an insignificant skirmish, the army retired with a loss of only a few men wounded, and eventually found itself back at Gorakhpur about the middle of May.

It is only echoing contemporary opinion to say that the operations of the 1st and 2nd Divisions were little short of disgraceful, betraying carelessness, timidity, and want of military knowledge.

The 3rd Division, operating from Meerut, occupied Dehra on the 22nd October. Five miles from Dehra **Operations of 3rd Division.** stood on a hill the little fort of Kalunga, held by some 300 to 400 regulars of Nepal with one gun, and commanded by Balbhadra Singh Thapa. Three days later, and before General Gillespie arrived, a somewhat futile reconnaissance in force was made by the officer temporarily in command. A few rounds were fired and the attack withdrew with the knowledge that the enemy had no intention of running away. On the 31st October a general assault was delivered against the hill fort by 2,700 men under the personal command of Gillespie, and supported by the fire of 10 guns and howitzers established at 600 yards range. It is not my intention this evening to describe in detail the operations against Kalunga—it is a tale of bravery on both sides; suffice it to say now that this assault failed entirely and the force fell back on Dehra with a loss of 240 killed and wounded, including the gallant General himself slain in the forefront

of the battle. On the 27th November reinforcements and a siege battery having arrived, a second and more desperate assault was delivered against Kalunga. Again we fell back defeated before the little band of heroes, with a loss of 11 officers and 478 killed and wounded. Bombardment recommenced, and the water-supply of the fort was cut off, so, taking their lives in their hands, the undefeated remnant of the Gurkha defenders, not more than 70 strong, cut their way through our investing lines on the night of the 30th November, and made good their retreat with slight loss. Ninety unburied dead and ninety severely wounded men, besides a few women and children, lying in the smouldering débris of the fort, remained to testify to the stubborn valour of the Gurkhas. Did time admit I would gladly follow the fortunes of this little band until at last—in after years—they were killed to a man, ranks still unbroken, in battle with the Afghans. Their memory is perpetuated by a monument erected on the hill of Kalunga, and as long as India endures, as long as the story of a gallant feat of arms stirs the pulses of our blood, so long shall endure the memory of Balbhadra and the men who fought so well.

The 3rd Division now turned westward, and under the command of General Martindale, commenced operations against the Gurkhas occupying the position of Jaitak, overlooking the town of Nahan. On the night of the 26th-27th December, the enemy's position was attacked. The operation, both in general and in incident, is fruitful in lessons, indetical in many cases with those driven home in recent years by the tribes across our North-Western border, and will well repay study. We have the night march, the initial success nullified by undue eagerness, the long turning movement, the unwise order to retire as evening fell, culminating in a column surrounded, cut off, and practically annihilated by brave and active mountaineers. A loss of 329 killed and wounded, 40 prisoners; out of 1,100 men who attacked, was the immediate result of this engagement, and the operations came to a standstill for two months. Reinforcements and a powerful battering train of heavy guns and mortars were sent up to the 3rd Division, Jaitak was bombarded, and a formal siege was opened against the stockaded positions of the Gurkhas and pressed to close quarters.

To the surprise of the army, which I think we may share, no assault was attempted. The bombardment continued from the middle of March till the beginning of May, and the enemy was eventually vigorously blockaded. Still no result. Finally, on the 6th May Jaitak was surrendered under the terms of the general capitulation consequent on the successes of the 4th Division, and of the operations in Kumaon. The 1,500 defenders, accompanied by about 1,000 women and children marched out with the honours of war.

The 4th Division, under Ochterlony, advanced from Ludhiana towards the outer ranges east of the Sutlej, Operations of 4th Division. took the fort of Nalagarh on the 2nd November, and afterwards various other defences lying to the north and west. Ochterlony's operations were characterized by caution and

deliberation—he dealt systematically and in detail with each fort and position, reducing them one by one, until by the 14th April he had the enemy cornered in his final position about Malaun. On that date was delivered a powerful and concentrated attack against the enemy's centre supported by vigorous demonstration elsewhere. The attack was successful. A counter-attack by the Gurkhas on the night of the 15th April was repulsed with heavy loss, and the enemy evacuated all their positions, the majority coming over to the English.

I can commend Ochterlony's operations to your consideration—they will, I think, be found instructive, but time does not admit of my doing more than refer to them this evening. They were hardly brilliant, but eminently sound and adapted to the situation. It will be remembered that the frequent failures and reverses of the other three divisions had seriously affected the prestige of our arms, while just across the Sutlej, the Sikhs, recently welded into a formidable nation of soldiers by the genius of Ranjit Singh, were watching the course of events, and failure on the part of Ochterlony would undoubtedly have resulted in a most dangerous situation. Ochterlony had no British troops with him, except a few artillery men, and he was only too well aware that our regular native troops were not, man for man, the equal of the Gurkhas in a hill campaign.

It is somewhat a relief to turn now to the consideration of the operations in Kumaon, in which both energy and ability were displayed, and which struck the first decisive blow toward the success of the war. Consequent on the reverses of the 1st, 2nd and 3rd Divisions, Lord Hastings, the Governor-General, decided to get a footing in Kumaon. It was known that this province had been almost denuded of regular troops, and that the majority of the inhabitants were bitterly hostile to Gurkha rule. Through Kumaon also ran the only line of communications of the Gurkhas between Nepal and their forces operating between the Ganges and the Sutlej. No regular troops were, however, immediately available, and Lord Hastings selected Lieutenant-Colonel Gardner, commanding a body of irregular horse employed in police duties, to raise a force of Rohillas, and undertake the invasion of Kumaon.

These Rohillas were the immediate descendants of various Pathan tribes, who had come down from the north in the train of Mogul and Afghan conquerors of Northern India, and had settled down in large numbers in the fertile districts about Moradabad and Bareilly, thereafter known by the name of Rohilkhand, or the Rohilla country. A body of Pathans of Rampur, who had lately been in the Gurkha service in Kumaon, formed the nucleus of this force—and to their knowledge of the country may, I think, be ascribed some share of Colonel Gardner's success. The fact, too, that the Rohillas had invaded Kumaon some 50 years before and had obtained much booty at the sack of Almora, probably brought many a recruit to Colonel Gardner's standard. With Colonel Gardner was associated as 2nd in command Captain Hearsay, who had travelled in Tibet in 1812, and



who had been a prisoner in Kumaon one year before the war. Besides a Mr. Martindale, who acted as Hearsay's Adjutant, there was but one other British officer, Dr. Rutherford, who combined in himself the duties of Surgeon, Commissariat officer, Intelligence officer, in charge of the Treasure, and of the Postal department. Doctor Rutherford may well be added to the roll of those combatant doctors who have proved themselves Jacks of all trades and masters of all—for if evidence as to the working of other departments is wanting, the strong points of Colonel Gardner's operations seem to have been the excellence of his intelligence and the efficiency of his supply departments.

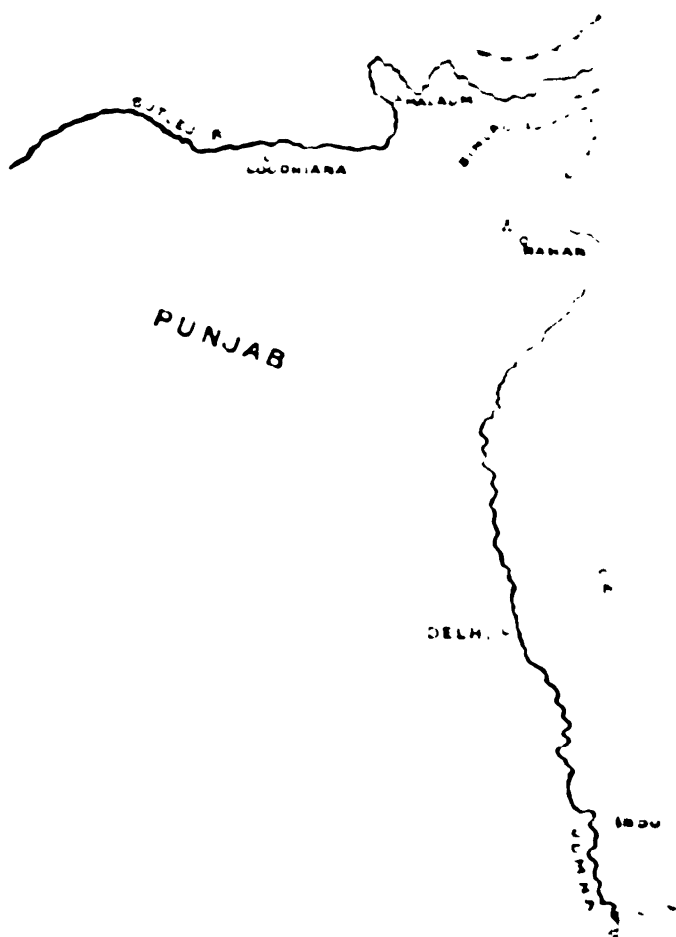
The plan of campaign was as follows:—3,000 men, with 2 light guns on elephants, under command of Colonel Gardner, assembled at Kashipur, to move

Plan of campaign. up the Kosi river; on Almora, 1,500 men, under Hearsay, to advance from Pilibhit up the Kali river, and over the Timla pass, into Eastern Kumaon; 500 men from Rudrapur to attack the fort of Barakheri, towards Bhim Tal, and thence join Gardner by Ramgarh and Peora. The operations of this latter force can be disposed of at once, as they practically did nothing, and only occupied Barakheri at the foot of the hills, and Chakhata Garhi near Bhim Tal, on the 1st April after these forts had been evacuated by the enemy. I shall not refer to this force again.

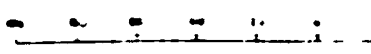
On the 11th February 1815 Colonel Gardner advanced from Kashipur. His transport consisted of coolies, with part of the heavy stores carried on elephants. On the 13th he reached Dhikuli* at the entrance to the hills, where a post was left to guard communications, and on the 16th the force reached Chukam, where the Kosi valley turns eastward, and halted there two days to get up stores and ammunition, which had been delayed from want of transport. Let me take this opportunity of describing the country through which the force is moving.

* See map II.

A few miles south of Dhikuli, the low hills, the outliers of the range which culminates near Naini Tal, close in upon the Kosi, and from thence to above Chukam dense forests of *sal* trees, entwined with creepers and thick with semi-tropical vegetation, come down towards the river valley which, broad at first, with grassy islands, gradually narrows as we turn eastward and penetrate farther into the hills. The hill slopes then become more bare, and rise steeply from the river through pine woods and terraced cultivation to oak-clad summits, rising on the north and south, 4,000 feet and more above the Kosi valley. From the crest of these ranges looking towards the north one sees, range beyond range, the hill country of Kumaon and Garhwal, mountains from 6,000 to 8,000 feet in height, while as a background to all rises high and clear against the sky the long range of perpetual snow. The Kosi, a torrent in the rains, is mostly fordable at this season of the year, a swift running stream



Scale of M



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1. [Description]
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3. The third part of the document is a table with 2 columns and 10 rows, containing numerical data:

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6	60
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12. The twelfth part of the document is a list of items, numbered 1 through 10, each followed by a description:

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13. The thirteenth part of the document is a table with 2 columns and 10 rows, containing numerical data:

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17. The seventeenth part of the document is a table with 2 columns and 10 rows, containing numerical data:

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18. The eighteenth part of the document is a list of items, numbered 1 through 10, each followed by a description:

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21. The twenty-first part of the document is a table with 2 columns and 10 rows, containing numerical data:

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24. The twenty-fourth part of the document is a list of items, numbered 1 through 10, each followed by a description:

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three columns against the left of this disseminated line, vigorously attacked and routed an isolated party of 350 men. Simultaneously a wing of a regiment on the opposite flank was attacked and driven back. This was enough for Major-General Marley. He withdrew his army, though the strength of the Gurkhas opposed to him did not exceed 5000 men, retired to Bettiah, and eventually on the 10th February he abandoned his army altogether, without notice, and without even handing over his command to any one. A few unimportant movements were carried out by his successor, who got the force up to the frontier again by the beginning of March, but the unhealthy season set in shortly after, and the force withdrew to cantonments.

The 2nd Division left Gorakhpur on the 13th December and reached

Operations of 2nd Division. The foot of the Bhutwal pass on the 31st. On the 3rd January 1815, 2000 men with guns on elephants, and 7 days' supply advanced to attack the Gurkhas in position, a strong party being detached to make a circuitous movement and take the enemy in rear. So far so good, but the main attack having omitted the desirable preliminary of careful reconnaissance, fell into an ambushade in the jungle. The column carrying reserve ammunition threw it down and fled—the force fell into confusion, and although hard fighting on the part of some enabled the force to retire without absolute disaster, considerable loss was sustained, and the operation failed altogether. The turning party, although it had reached its objective in rear of the enemy, was obliged to retire on the failure of the direct attack.

The 2nd Division now stood fast and did nothing for three months, awaiting the arrival of a battering train of artillery. When this appeared, a half-hearted attempt was made to cross the river flowing past Bhutwal town, but after an insignificant skirmish, the army retired with a loss of only a few men wounded, and eventually found itself back at Gorakhpur about the middle of May.

It is only echoing contemporary opinion to say that the operations of the 1st and 2nd Divisions were little short of disgraceful, betraying carelessness, timidity, and want of military knowledge.

The 3rd Division, operating from Meerut, occupied Dehra on the 22nd October. Five miles from Dehra stood on a hill the little fort of Kalunga, held by some 300 to 400 regulars of Nepal with one gun, and commanded by Balbhadra Singh Thapa. Three days later and before General Gillespie arrived, a somewhat futile reconnaissance in force was made by the officer temporarily in command. A few rounds were fired and the attack withdrew with the knowledge that the enemy had no intention of running away. On the 31st October a general assault was delivered against the hill fort by 2700 men under the personal command of Gillespie, and supported by the fire of 10 guns and howitzers established at 600 yards range. It is not my intention this evening to describe in detail the operations against Kalunga—it is a tale of bravery on both sides, suffice it to say now that this assault failed entirely, and the force fell back on Dehra with a loss of 240 killed and wounded, including the gallant General himself slain in the forefront

of the battle. On the 27th November reinforcements and a siege battery having arrived, a second and more desperate assault was delivered against Kalunga. Again we fell back defeated before the little band of heroes, with a loss of 11 officers and 478 killed and wounded. Bombardment recommenced, and the water-supply of the fort was cut off, so, taking their lives in their hands, the undefeated remnant of the Gurkha defenders, not more than 70 strong, cut their way through our investing lines on the night of the 30th November, and made good their retreat with slight loss. Ninety unburied dead and ninety severely wounded men, besides a few women and children, lying in the smouldering débris of the fort, remained to testify to the stubborn valour of the Gurkhas. Did time admit I would gladly follow the fortunes of this little band until at last—in after years—they were killed to a man, ranks still unbroken, in battle with the Afghans. Their memory is perpetuated by a monument erected on the hill of Kalunga, and as long as India endures, as long as the story of a gallant feat of arms stirs the pulses of our blood, so long shall endure the memory of Balbhaddra and the men who fought so well.

The 3rd Division now turned westward, and under the command of General Martindale, commenced operations against the Gurkhas occupying the position of Jaitak, overlooking the town of Nahan. On the night of the 26th-27th December, the enemy's position was attacked. The operation, both in general and in incident, is fruitful in lessons, identical in many cases with those driven home in recent years by the tribes across our North-Western border, and will well repay study. We have the night march, the initial success nullified by undue eagerness, the long turning movement, the unwise order to retire as evening fell, culminating in a column surrounded, cut off, and practically annihilated by brave and active mountaineers. A loss of 329 killed and wounded, 40 prisoners, out of 1,100 men who attacked, was the immediate result of this engagement, and the operations came to a standstill for two months. Reinforcements and a powerful battering train of heavy guns and mortars were sent up to the 3rd Division, Jaitak was bombarded, and a formal siege was opened against the stockaded positions of the Gurkhas and pressed to close quarters.

To the surprise of the army, which I think we may share, no assault was attempted. The bombardment continued from the middle of March till the beginning of May, and the enemy was eventually vigorously blockaded. Still no result. Finally, on the 6th May Jaitak was surrendered under the terms of the general capitulation consequent on the successes of the 4th Division, and of the operations in Kumaon. The 1,500 defenders, accompanied by about 1,000 women and children marched out with the honours of war.

The 4th Division, under Ochterlony, advanced from Ludhiana towards the outer ranges east of the Sutlej, took the fort of Nalagarh on the 2nd November, and afterwards various other defences lying to the north and west. Ochterlony's operations were characterized by caution and

deliberation—he dealt systematically and in detail with each fort and position, reducing them one by one, until by the 14th April he had the enemy cornered in his final position about Malaun. On that day was delivered a powerful and concentrated attack against the enemy's centre supported by vigorous demonstration elsewhere. The attack was successful. A counter-attack by the Gurkhas on the night of the 15th April was repulsed with heavy loss, and the enemy evacuated all their positions, the majority coming over to the English.

I can commend Ochterlony's operations to your consideration— they will, I think, be found instructive, but time does not admit of my doing more than refer to them this evening. They were truly brilliant, but eminently sound and adapted to the situation. It will be remembered that the frequent failures and reverses of the other three divisions had seriously affected the prestige of our arms, while, across the Sutlej, the Sikhs, recently welded into a formidable mass of soldiers by the genius of Ranjit Singh, were watching the course of events, and failure on the part of Ochterlony would undoubtedly have resulted in a most dangerous situation. Ochterlony had British troops with him, except a few artillery men, and he was only too well aware that our regular native troops were not, man for man, the equal of the Gurkhas in a hill campaign.

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These Rohillas were the immediate descendants of various Pathan tribes, who had come down from the north in the train of Mogul and Afghan conquerors of Northern India, and had settled down in large numbers in the fertile districts about Meerut and Haridwar, thence after known by the name of Rohilkhand, or the Rohilla country. A body of Pathans of Rampur, who had lately been in the Gurkha service in Kumaon, formed the nucleus of the force—and to their knowledge of the country may, I think, be ascribed some share of Colonel Gardner's success. The fact, too, that the Rohillas had invaded Kumaon some 50 years before and had obtained much booty at the sack of Almora, probably brought many a recruit to Colonel Gardner's standard. With Colonel Gardner was associated as aid in command Captain Hearsay, who had travelled in Tibet in 1812, and



who had been a prisoner in Kumaon one year before the war. Besides a Mr. Martindale, who acted as Hearsay's Adjutant, there was but one other British officer, Dr. Rutherford, who combined in himself the duties of Surgeon, Commissariat officer, Intelligence officer, in charge of the Treasure, and of the Postal department. Doctor Rutherford may well be added to the roll of those combatant doctors who have proved themselves Jacks of all trades and masters of all—for if evidence as to the working of other departments is wanting, the strong points of Colonel Gardner's operations seem to have been the excellence of his intelligence and the efficiency of his supply departments.

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Plan of campaign. up the Kosi river; on Almora, 1,500 men, under Hearsay, to advance from Pilibhit up the Kali river, and over the Timla pass, into Eastern Kumaon; 500 men from Rudrapur, to attack the fort of Barakheri, towards Bhim Tal, and thence join Gardner by Ramgarh and Peora. The operations of this latter force can be disposed of at once, as they practically did nothing, and only occupied Barakheri at the foot of the hills, and Chakhata Garhi near Bhim Tal, on the 1st April after these forts had been evacuated by the enemy. I shall not refer to this force again.

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* See map II.

A few miles south of Dhikuli, the low hills, the outliers of the range which culminates near Naini Tal, close in upon the Kosi, and from thence to above Chukam dense forests of *sāl* trees, entwined with creepers and thick with semi-tropical vegetation, come down towards the river valley which, broad at first, with grassy islands, gradually narrows as we turn eastward and penetrate farther into the hills. The hill slopes then become more bare, and rise steeply from the river through pine woods and terraced cultivation to oak-clad summits, rising on the north and south, 4,000 feet and more above the Kosi valley. From the crest of these ranges looking towards the north one sees, range beyond range, the hill country of Kumaon and Garhwal, mountains from 6,000 to 8,000 feet in height, while as a background to all rises high and clear against the sky the long range of perpetual snow. The Kosi, a torrent in the rains, is mostly fordable at this season of the year, a swift running stream

with occasional deep pools, holding a fair number of fish, perhaps more numerous than in these poaching days. Along the river ran, and still runs, the hill path forming the main route from Moradabad to Almora.

On the 19th February, 500 men were detached from Chukam against Kât-ki-nau, on the ridge to the north, and some 3,000 feet above the river. The Gurkhas retired without fighting, and the left flank was thereby secured, enabling the force to move seven miles up the river to Ukhalunga. Late the same evening a party occupied the hill to the right flank, south of the river, driving off the enemy who tried to forestall them. On the 21st February the advanced guard moved 6 miles to Sethi. While on the march news was received that about 800 of the enemy were in position at Bujan, about 15 miles up the river, and barring the road to Almora. Those who have been to Ranikhet will remember Bujan as a small camping-ground on the Kosi near Khairna. In consequence of this news preparations were made to meet a night attack. The night passed however without incident, and next morning Gardner, recognizing that an attack with his raw levies was inadvisable, decided to leave the river route, and by a movement northward not only turn the enemy's position, but also open up communication with the western districts of Kumaon, the most friendly and affording ample supplies.

On the 22nd February therefore, he moved a few miles to Amel, and thence, taking 300 picked men, pushed up the mountain to the north of the river, past Binakot, to seize the crest at Chaumukhia (or Chaumua) Devi, 6,354 feet above the sea, and 4,000 feet above the river. It is a stiff climb, and with the afternoon sun on their backs, up the bare lower slopes, by the rough hill track, the Rohillas pushed on. By sunset 40 or 50 men only had reached the summit, but more dropped in in the course of the night, and the rest arrived next morning. The snow was lying on the top of the hill, which, to a man of Colonel Gardner's calibre, appeared not as a hardship, but rather as obviating the difficulty about water.

His exertions were well repaid. The Gurkhas from Bujan moved on the Chaumukhia, but on arriving 4 miles off found the position occupied, and fell back. Intercepted letters subsequently made it clear that the enemy had intended to hold this commanding point. The inhabitants of the country also began to come in with supplies and information.

It was the 25th February, two days later, before the remainder of the force arrived, and another day before the guns, carried on elephants, reached Chaumukhia Devi, much difficulty having been experienced in getting them up the hill.

The Gurkhas now moved to Kumpur hill, on which the barracks of the British Infantry battalions quartered at Ranikhet now stand, and, having been reinforced to a strength of about 1,000 men with one gun, established themselves there in a strongly stockaded position barring the road to Almora. The actual nature of this position is not on

record, but we shall not be far wrong in assuming that it was defended on the lines of other Gurkha stockaded positions, of which we have descriptions. These stockades were strongly constructed of logs, bound at the bottom with thick stone walls. In front stakes were planted, and splinters of bamboo or other wood, disposed all around. The stockades ran as a rule right across the hill, supplemented by trenches with earthen or stone breastworks down each flank, while the first stockaded line was often supported by similar lines in rear.

Colonel Gardner rightly judged that it was inadvisable to attempt an assault on Kumpur with the force at his disposal, especially as he had no guns capable of breaching stockades. He contented himself therefore with making a short move forward, and established himself on Kapina-ki-danda, facing Kumpur and overlooking the Tarkhet valley, pending the arrival of new Rohilla levies raised in the Hapur district which those who marched back from Delhi will remember is between the Jamna and Ganges on the Delhi-Moradabad Road. This temporary suspension of active operations was utilised by Colonel Gardner in collecting supplies, extending our influence among the people, and undoubtedly, judging by results, in obtaining an accurate knowledge of the country about. His irregulars were also put in good heart by two successful little skirmishes with Gurkha foraging parties near Tarkhet.

On the 22nd March 850 new levies arrived, and the same night Arrival of reinforcements. Ad- 1,200 men were sent off to make a wide vance to Katarmal. detour round the enemy's left, and occupy the hill of Siyahi Devi, which lay to their rear, threatening their line of retreat to Almora. Siyahi Devi rises to a height of 7,186 feet, and with its dark forest-clad slopes and commanding position is a prominent feature in the landscape between Ranikhet and Almora. The force marched in the south-easterly direction, down into the deep pine-clad valley, then up and over the slopes of Chaubuttia, descended into the valley of the Panor stream, a confluent of the Ulabagar, crossed this valley, ascended Siyahi Devi by Suri village, and established itself on the summit, without opposition, during the day. The distance from point to point as the crow flies is twelve miles, but those who know the ground will, I think, agree with me that the actual distance covered is not much under 20 miles, including as it does steep descents and ascents of over 1,000 feet each, and much rough and thickly wooded country. This flank movement was covered by a demonstration made next morning against Kumpur, while a post of 500 men was established ten miles off and four miles from the enemy's left stockade. That would be somewhere probably near the top of Chaubuttia.

This well devised and executed movement had the desired effect. Early on the morning of the 24th March the Gurkhas fired their stockades on Kumpur, and hastily retreated on Almora *via* Ryuni. The difficult nature of the intervening country prevented the interception of their retreat by the detachment at Siyahi Devi. On the 26th

March the main body arrived at Ryuni, where they were joined by some of the men from Siyahi Devi, 800 being left to occupy that position, and on the 27th March the force having reached Katarmal occupied the ridge overlooking the Kosi. The Gurkhas concentrated on the Sitoli ridge covering Almora. In the Katarmal position Colonel Gardner awaited the reinforcements of regular troops now assembling at Moradabad, while, in consequence of his bold and judicious advance the Kumaonis in the Gurkhas' service deserted, and the people generally hastened to assist him with supplies and information. The latter was, as ever, invaluable, and more especially so as there were no trustworthy maps.

The temporary pause in the main operations against Almora affords a fitting opportunity to consider briefly
Operations in Eastern Kumaon. how Captain Hearsay was faring in
 in Eastern Kumaon.

Having moved from Pilibhit, the Timla pass (3,840 feet), defended by some small forts, was occupied on the 18th February, just at the time when Gardner was entering the hills by the Kosi route. Captain Hearsay then moved into the valley of the Ladiya, and on the 28th February occupied Champawat, the old capital of Kumaon, with 500 irregulars and 200 Kumaon matchlock men, who had joined his force. The small Gurkha garrison took refuge in the Fort of Katalgarh, a few miles north-west of Champawat, where they were unsuccessfully besieged. Captain Hearsay's little force was now in dangerous proximity to the Nepal border, only 20 miles away, and to make matters worse it was broken up into detachments. The opportunity was seized by one of the most capable Gurkha leaders, by name Hastidal, who collected a small force of Gurkha regulars, crossed the Kali river from Nepal, and advanced on Champawat before Hearsay could concentrate his detachments. Hearsay however collected what he could, and advanced to meet Hastidal. The result was disastrous. The irregulars and local levies proved no match for the Gurkha veterans who on the 2nd April won an easy and complete victory at Khilpati, five miles north-east of Champawat. Hearsay himself was wounded and taken prisoner to Almora, while his force dispersed and fled to the plains.

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The importance of Gardner's successful advance was fully recognized by Lord Hastings, who decided to support him with regular troops, and for this purpose a well equipped column of 2,000 men with 12 pieces of artillery was assembled at Moradabad.* It consisted of 2½ strong battalions of regular native infantry, and the artillery train was, for those days, of a powerful nature, consisting as it did of 6-pounders, two 12 pounders, two 4½ inch mortars, and two 8 inch mortars. The force was commanded by Colonel Nicolls of His Majesty's 14th Foot, then Quarter Master General of King's Troops, and afterwards Sir Jasper Nicolls, Commander in-Chief in India. Moradabad was left on the 30th March, and moving by rapid marches, the force reached Chaumukhia Devi, where a depôt had been established, on the 6th April, and Katarmal on the 9th April. Colonel Nicolls assumed command of the whole force now assembled, which, including irregulars, must have numbered about 5,000 men. The Gurkhas holding Sitoli and Almora, in spite of any re-inforcements brought by Hastidal, were very much fewer in numbers. They were hard up for supplies, and having received no pay, they were forced to plunder to live, and thus

the aggravation of the people against them was further increased. A fortnight was now spent in negotiations, which led to nothing, till on the 22nd April, the crisis was produced by Hastidal taking a strong detachment, and marching northward from Almora.

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Colonel Nicolls was at once informed of this movement by the inhabitants, and so, the same night, he despatched 900 men with a six-pounder gun and a mortar, with orders to follow up Hastidal, watch him and attack if opportunity offered.

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The guns had to be sent back, owing to the difficulties of the road but the remainder pushed up the Kosi valley from Katarmal, thence towards Gananath, which is distant from Almora about 15 miles. Just before the next afternoon had located the Gurkhas. Tradition relates that news of their unpreparedness was brought to our force by the Brahmins of the little temple which stands on the top of Gananath at that the time of the evening meal was indicated as most favourable for attack. In the evening our force advanced, climbing up the steeper lower slopes of the mountain, thence emerging on the gentler and grassy lawns which are found above, to meet their enemy in a sun-glade among the pine woods, a little to the south of the temple at Gananath. The Gurkhas were taken by surprise, the contest was soon decided. After a short sharp fight the Gurkhas fled, with a loss of an officer and 32 men killed on the spot, while many were wounded including their leader Hastidal, succumbed before reaching Almora.

This success was achieved with a loss on our side of only two killed and 26 wounded. On the good news reaching Colonel Nicolls, he at once decided to seize the opportunity thus offered, and, rightly reckoning on the disheartenment of the enemy and the corresponding elation of his own troops, arranged to assault the Sitoli position without delay. From the ridge of Katarmal the ground falls steeply down to the Kosi, here a little mountain river some thirty yards broad, deep, and alternating with fordable shallows, thence after a short steep rise it comes out upon broad and easy spurs trending down from the high and level ridge of Sitoli. Little hamlets, embowered in fruit trees, mark the hillside, and all the lower slopes are covered with terraced cultivation. The Sitoli ridge itself, and that on which Almora stands, are but underfeatures of the high bare range which lies north of Almora and culminates at Kalimat, 1,000 feet above, and three miles distant from the town. The keys of the position lay in the narrow cols which join the ridges of Almora and Sitoli with the higher ground above, and form the natural lines of retreat from those positions to Nepal. The Gurkhas were established behind stone breastworks and stockades on the Sitoli ridge, with other breastworks covering the right; on Kalimat was posted a detachment, and a small reserve at Almora.

At one o'clock on the afternoon of the 25th April Colonel Nicolls advanced to the attack with all the troops available.*

He moved up the long spur towards the north of the Sitoli position, intending to establish a battery within close range of the stockades, but his troops being in such good heart, he ordered the first two stone breastworks on the north end of the ridge to be assaulted without delay. This was done in good style by the 4th Native Infantry. The irregulars under Colonel Gardner were advancing on a parallel

*Major Patton's force remained at Gananath and Katarmal.

Bageswar



14

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to Pithoragarh

and, on the success of the Native Infantry, diverged to the right when near the summit, and seized the remaining stockades on Sitoli ridge. Fifty men of the 4th Native Infantry now worked to the left and seized another breastwork. So much being won, a slight pause ensued to get the troops together, and then a general advance was made on Almora by all practicable routes, five in number.

With the capture of a stockade on the road between Almora and Kalimat, the Raja's palace, and a stone fortification, the enemy were entirely cut off from Kalimat, and their retirement from Almora seriously compromised. By nightfall our troops were established close to the town, and on Haridungari above Pokhar Khali, at which place about half a mile north of the fort, Colonel Nicolls established his head quarters.

His Artillery officers, working hard, got up the smaller mortars, and at 6 P.M. opened fire on the fort, while by midnight the large 8-inch mortars joined in the bombardment. Things looked bad for the Gurkhas but, as usual, the worst extremity roused their most desperate effort. Towards midnight, the Gurkha detachment at Kalimat, covering their

Night attack by the Gurkhas. advance, so tradition says, by a herd of cattle with firebrands on their horns, swept down on our most northerly post, and drove out the defenders with a headlong attack. At the same time the Gurkhas in the fort made a gallant sortie against our main positions, right up to the stockades, some to fall dead inside. The northern stockade was retaken after severe hand-to-hand fighting by 100 native infantry supported by the same number of irregulars, led instantly to the spot by Colonel Gardner in person. Thrice afterwards the enemy renewed the unequal contest, and thrice were repulsed with slaughter on both sides. All night long continued skirmishing and the fire of musketry, all night the mortars kept up their steady fire of shells. On the cool dark ridge, with such a prize in view, that spring night must have been one to live for.

When morning dawned, the advanced troops pushed to within 70 yards of the fort, and one party, emboldened by the silence of the enemy, pushed up the street which runs to the east of the fort, to get at the main entrance door. They were met by fire, and fell back in good order.

The bombardment continued, until at 9 A.M. the Commander of the fort having taken counsel with Captain Hearsay, his prisoner, sent out a flag of truce and an armistice was agreed on. The Gurkhas, reduced by losses among their bravest, and by the defection of those who were not men of Nepal, had done all that soldiers could do, in the face of overwhelming odds.

Terms honourable to both parties were soon arranged, and under those terms the Gurkhas evacuated Almora at once, and all other forts in Kumaon within 10 days, retaining their arms, 11 guns, and their stores, and being provided with provisions,

They retired beyond the Kali into Nepal, and from that day Kumaon, and all the pleasant hills between the Kali and the Sutlej have remained in our undisputed possession.

The total losses among our troops in the fighting of the 25th and 26th April amounted to about two hundred killed and wounded, of whom a considerable number are creditably reported to have fallen by the fire of our own men in the confusion of the night attack.

On the ridge of Sitoli stands a monument to the officers who fell and in the traditions of the countryside the memory of the battle still remains green. Exact information on many points is now unobtainable, for, as the writer of the North-West Provinces Gazetteer somewhat caustically remarks, "the whole of the military correspondence and records of the period belonging to the Station Staff Office at Almora were (apparently about 1873) burned as waste paper, a fate which is gradually overtaking all the records in the country that are at all worth preserving."

The war against Nepal did not close with the successes at

The end of the war.

Malaun and Almora, for protracted and unsatisfactory negotiations with the Nepal Government necessitated a renewal of operations some months later. A fine army was placed under the direct command of Ochterlony, who, advancing from Dinapore reached Choriya Ghat on the Nepal border on the 10th February 1816. Opposed in a stockaded position of great strength, he, by a masterly movement, turned all the positions by a route though the hills deemed impassable, and reached Makwanpur, within 20 miles of Khatmandu.

Here the Gurkhas attacked him but were completely defeated with a loss of over 800 killed and wounded.

Peace was then concluded, a peace which has happily continued unto this day.

And now, are there any lessons which we may learn from the operations I have endeavoured to describe?

Concluding remarks.

There may be some who hold that at campaign fought so long ago, under conditions of armament so different from those of the present day, can hardly prove instructive now. For myself however I cannot hold that opinion. There must be, and there are, many lessons both of general and of particular application to be learnt from any campaigns, such as this, fought out on ground so similar in many respects to that found beyond our north-western border line, and against an enemy whose tactics—the tactics of brave mountaineers fighting in the hills they know—so closely resembled those of men we have so often opposed, and must often face again. What each and every lesson is, I do not propose to consider now. In the first place, there is no time, and even if there was, it must always be remembered that lectures such as this, delivered to an audience like the present, are not intended to be didactic but suggestive. I hope my narrative may have suggested some points worthy of your consideration. One thing, perhaps, I may say. If any

officers find themselves in the vicinity of Ranikhet and Almora let them, in the light of what was done on the same ground, consider how they themselves would act under modern conditions. Let them emulate or surpass, in theory at any rate, the strategy and the tactics of Nicolls and of Gardner, and some real benefit may then perhaps be reaped from my lecture this evening. One clear lesson at least may be learnt from this campaign. Let me give it you in the words of the General Order by His Excellency the Governor-General, dated the 16th May 1815, in which order the services of Nicolls and of Ochterlony are warmly eulogized and held up as an example to the Army: " Warfare in a mountainous region offers embarrassments, which when viewed at a distance appear unsurmountable, but which dwindle into comparative insignificance under the grasp of vigour and genius.

" It is only in unusual situations demanding readiness of resource and animated effort that the difference between officer and officer can be displayed, and it ought to be always present in the mind of every military man that he who in circumstances of perplexity tries and fails has to plead those chances from which no operation of war can be secured, his pretensions to the character of zeal and energy being in the meantime displayed ; while he who contents himself with urging difficulties as an excuse for doing nothing voluntarily registers his own inefficiency. "

THE SIKH RELIGION AND ITS ADVANTAGES TO THE STATE.

FIRST LECTURE BY M. MACAULIFFE, ESQ., I.C.S., RETIRED, M.R.A.S.,
6TH JULY 1903.

The Hon'ble Sir C. M. Rivas, K.C.S.I., in the Chair.

His Honour the Lieutenant-Governor's introductory remarks :

Ladies and gentlemen,—Mr. Macauliffe, whom I have the pleasure of introducing to you and who is going to deliver a lecture this afternoon on the religion of the Sikhs, is a retired officer of the Indian Civil Service who, during his service in the Punjab, took much interest in the Sikhs, and since he retired has translated into English the most important portions of their sacred books.

These translations have been submitted to the careful scrutiny and criticism of the most competent students and interpreters of their religious literature among the Sikh community, and his translations have also come under the notice, and have received the favourable commendation, of the most competent authorities on Oriental literature in Europe. I think therefore that we may confidently anticipate an interesting lecture.

Mr. Macauliffe:—

I have undertaken to read this paper, in the first place, to give a brief account of the Sikh religion, and, in the second place, to explain some of its advantages to the Government of this country. What I have to say on this occasion is necessarily fragmentary. It would require many lectures to set forth the beauties and utility of the Sikh religion. Every body has heard of the loyalty and devotion of the Sikhs to the British, but when it comes to enquiring what their religion is, very few seem to know. This ignorance is not confined to people of ordinary education, it extends even to some of the greatest Oriental scholars, for there is no work which really deals with the subject, and acquaintance with the Sikh writings can only be obtained by several years' study in this country. Horace Hayman Wilson's account of the Sikhs was professedly based on Malcolm's "Sketch" and some researches made by Captain Murray and other visitors to the Panjab at different times in the first half of the last century. Malcolm was an observant and painstaking writer whose remarks and conclusions on Indian administration still deserve attentive study, but, owing to the difficulties of the Sikh sacred writings, he had not sufficient time to thoroughly investigate them. The scope of Captain Cunningham's excellent and impartial "History of the Sikhs" was essentially political, and he necessarily confined himself in the first three chapters of his work to some of the external observances of the Sikhs and to such details of their Gurus as are popularly mentioned.

The only writer who undertook to give a full account of the Sikh religion was Dr. Trumpp, a German missionary employed by the India Office to translate the Ad Granth. When he visited Amritsar, the headquarters of the Sikh religion, he, through the agency of the Civil Officers, had the Sikh priests of that city summoned before him. In the course of their conference he told them he was versed in Sanskrit literature and they were not, *ergo* he understood the Granth Sahib better than they. The conference ended by his pulling out his cigar case and perfuming the Granth Sahib, which lay before him on the table, with tobacco smoke. The use of tobacco not being allowed in the Sikh religion, the gyanis fled in horror at what they deemed the profanation of their sacred volume. For these and other reasons, partly due to the conservatism of the Sikhs at that period, Doctor Trumpp was unable to obtain the assistance of competent gyanis or interpreters of the Sikh scriptures, and after some time he took the Ad Granth to Munich with him, and there, aided by the German Genius of industry, produced what he considered a translation of it. Any one gifted with the power of divination may be able to understand portions of it; and the manner in which he allowed his odium theologicum to assert itself may be found described in Sikh memorials to the Viceroy. I much regret to have to make these remarks on a departed scholar, who was plodding and earnest in his own way. I only do so because men, who ought to know better, have so often met me with the objection that his work, which the Sikhs regard as a standing insult, is a sufficient exposition of their religion.

These books on the table are the Ad Granth and the Granth of the tenth Guru. The Ad Granth contains the compositions of Guru Nanak, the founder of the Sikh religion; of his successors Gurus Angad, Amardas, Ramdas, and Arjan; hymns of the Hindu Bhagats, or Saints, Jaidev, Namdev, Trilochan, Sain, Ramanand, Kabir, Raidas, Pipa, Bhikhan, Beni, Permanand, Surdas, Sadhna, Dhanna Jat; verses of a Musalman saint, called Farid; and panegyrics of the Gurus by the bards who either attended them or admired their character. The compositions of Guru Teg Bahadur, the ninth Guru, were subsequently inserted in the Granth Sahib in the space left vacant for them by Guru Arjan. And one recension of the sacred volume preserved at Mángat in the Gujrat district contains a hymn composed by Mira Bai, Queen of Chitaur.

The Granth of the tenth Guru contains his Jápji, the Akál Ustit or Praise of the Creator, the Vachitar Natak or Wonderful Drama, in which the Guru gives an account of his parentage, divine mission, and the battles in which he had been engaged. Then come three abridged translations by different hands of the Devi Mahatmya, an episode in the Markandeya Puran, in praise of Durga the goddess of war. Then follow the Gyan Parbodh or awakening of knowledge, accounts of twenty-four incarnations of the Deity selected because of their warlike character, the Hazáre de Shabd, quatrains called sawaie, which are religious hymns in praise of God and reprobation of idolatry and hypocrisy; the Shastar Nám Mála, a list of offensive and defensive weapons used in the Guru's time, with

special reference to the attributes of the Creator; the *Tria Charit* or tales illustrating the qualities, but principally the deceit of women; the *Kabit* compositions of a miscellaneous character; and the *Zabur* nama containing the tenth Guru's epistle to the Emperor Aurangzeb and several metrical tales in the Persian language. The *Granth* of the tenth Guru is only partially his composition. The greater portion of it was written by bards in his employ.

These two volumes are in several languages and dialects. The *Ad Granth* is largely in old Panjabi and Hindi, but Prakrit, Persian, Marathi, and Gujrati are also represented. The *Granth* of the tenth Guru was written in the old and very difficult Hindi, after the manner of the *Granth* of the first Guru, and was composed by literary men in the Patna District three centuries ago. In neither of these sacred volumes is there any separation of words. As there is no separation of words in Sanskrit, the *gyanis* or interpreters of the Guru's hymns deemed it would be a profanation to separate the words of their sacred writings. It would be a pity to say that the object of the *gyanis* was to keep all divine knowledge to themselves, but at any rate the result is that the Sikhs have now thrust aside the *gyanis* and their learning, and are content to dispense with both. Hence one of the many causes of the decline of the Sikh religion.

Now as to the arrangement of the hymns of the *Ad Granth*. They are not arranged, as we should say in Hindustani, *Guruwar* or *Bhagatwar*, that is, according to Gurus or Bhagats, but *ragwar* or according to *rag*s or musical measures. There are thirty-one such measures in the *Ad Granth*, and the hymns are arranged according to the measures to which they were composed. The Gurus who composed the hymns, that is, the first, second, third, fourth, fifth, and ninth, all used the name Nanak as their takhalus or name-deplume. Their compositions are distinguished by *mahallas* or stories. The compositions of Guru Nanak are styled *mahala one*, that is, the first story. The compositions of Guru Angad are styled the second story and so on. After the hymns of the Gurus are found the hymns of the Bhagats under their several musical measures. The Sikhs generally dislike any arrangement of the *Ad Granth* by which the compositions of each Guru or Bhagat should be separately shown.

The Sikh religion differs, as regards the authenticity of its dogmas, from most other great theological systems. Many of the great teachers the world has known have not left a line of their own compositions, and we only know what they taught through tradition or second-hand information. If Pythagoras wrote any of his tenets, his writings have not descended to us. We only know the teaching of Sokrates from the writings of Plato and Xenophon. Buddha has left no monuments of his teaching, and for it we are obliged to depend on works largely tinged with romance. Kung fu-tze, known to Europeans as Confucius, left no writings in which he detailed the principles of his moral and social system. The Arabian Prophet did not himself redact or write the chapters of his *Quran*. They were written or compiled by his adherents and followers. But the compositions of the Sikh Gurus are preserved in these volumes, and we know at first-hand what they

taught. They employed the vehicle of verse which is unalterable by copyists, and we even become in time familiar with their different styles. No spurious compositions or extraneous dogmas can, therefore, be palmed off on us as theirs.

During what we call the dark ages religion was in no better condition in Asia than it was in Europe. Gurdas, a Sikh writer who flourished in the end of the sixteenth and the beginning of the seventeenth century, describes the deplorable state of the morals of the age before the appearance of the Bhagats and Gurus. His writings are calculated to give a severe shock to the *laudatores temporis acti*.

Men's ideas and aspirations were low. Mammon fascinated the world and led every one astray. Good acts no longer commended themselves to men. They burned with pride, and respected not one another. High and low forgot their mutual duties. Monarchs were unjust, and their nobles were butchers, who held knives to men's throats. Everybody thought he possessed knowledge, but none knew in what knowledge or ignorance consisted. Men did what pleased themselves. Alchemy and thaumaturgy were professed, incantations and spells practised, and men indulged in strife, wrath, and mutual jealousies. In the general disorder every one adopted a religion of his own. Out of the one God they made many, and carved gods, attractive and unattractive, from wood and stone. Some worshiped the sun or moon, others propitiated the earth, sky, wind, water, or fire, and others again the God of death, while the devotion of many was addressed to cemeteries and cremation grounds. Thus did men go astray in vain religions and vain worship.

Men despised one another and hence caste received religious sanction. The Brahmins set the Veds, the Purans, and the Shastars at variance. The professors of the six schools of Hindu philosophy quarrelled with one another, and while so employed indulged to their hearts' content in hypocrisy and superstition. Not only were the Hindus divided into four castes, but the Muhammadans were divided into four sects, and while the Hindus worshiped the Ganges and Banaras, the Muhammadans addressed their devotions to Makka and the Kaaba. The evil spirit fascinated the members of both religions; they forgot their holy books; they went astray on every road; and truth was the one thing they failed to discover. Thus far Gurdas on the morals of his age.

Indeed, there is a wonderful analogy between the spiritual condition of Europe and Asia during the period to which I refer. After the mental darkness which Gurdas described, a great cyclic wave of reformation overspread both continents. In Europe most religious works were written in Latin, in India they were in Sanskrit. In both continents all learning was in the hands of the priesthood, and this admittedly led to serious abuses. During the very period that Wickliffe and Luther and Calvin in Europe were warning men of the errors that had crept into Christianity, men like Kabir and Guru Nanak were denouncing priestcraft, hypocrisy, and idolatry in India, and with very considerable success. Most of the Indian mediæval saints who led

March the main body arrived at Ryuni, where they were joined by some of the men from Siyahi Devi, 800 being left to occupy the position, and on the 27th March the force having reached Katarmal occupied the ridge overlooking the Kosi. The Gurkhas concentrated on the Sitoli ridge covering Almora. In the Katarmal position Colonel Gardner awaited the reinforcements of regular troops now assembling at Moradabad, while, in consequence of his bold and judicious advance the Kumaonis in the Gurkhas' service deserted, and the people generally hastened to assist him with supplies and information. The latter was, as ever, invaluable, and more especially as there were no trustworthy maps.

The temporary pause in the main operations against Almora afforded a fitting opportunity to consider the operations in Eastern Kumaon. how Captain Hearsay was faring in Eastern Kumaon.

Having moved from Pilibhit, the Timla pass (3,840 feet), during the night by some small forts, was occupied on the 18th February, just at the time when Gardner was entering the hills by the Kosi route. Captain Hearsay then moved into the valley of the Ladhya, and on the 21st February occupied Champawat, the old capital of Kumaon, with 100 irregulars and 200 Kumaon matchlock men, who had joined his force. The small Gurkha garrison took refuge in the fort of Katalgarh, a few miles north-west of Champawat, where they were unsuccessfully besieged. Captain Hearsay's little force was in a very dangerous proximity to the Nepal border, only 20 miles away, and to make matters worse it was broken up into detachments. The opportunity was seized by one of the most capable Gurkha leaders, whose name Hastidal, who collected a small force of Gurkha regulars, crossed the Kali river from Nepal, and advanced on Champawat to meet Hearsay, who could concentrate his detachments. Hearsay, however, collected what he could, and advanced to meet Hastidal. The result was disastrous. The irregulars and local levies proved no match for the Gurkha veterans who on the 2nd April won an easy and complete victory at Khilpati, five miles north-east of Champawat. Hearsay himself was wounded and taken prisoner to Almora, while his force dispersed and fled to the plains.

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These operations are instructive, if only for the fact that they throw into brighter light the brilliant operations of Gardner, conducted with troops of the same calibre against a similar enemy. They make it clear, I think, that it was Gardner's combination of caution, judgment, and well timed boldness, which led to success.

rather than any mere accident of numbers, or feebleness on the part of the enemy.

The importance of Gardner's successful advance was fully recognized by Lord Hastings, who decided to support him with regular troops, and for this purpose a well equipped column of 2,000 men with 12 pieces of artillery was assembled at Moradabad.* It consisted of 2½ strong battalions of regular native infantry, and the artillery train was, for those days, of a powerful nature, consisting as it did of 6-pounders, two 12 pounders, two 4½ inch mortars, and two 8 inch mortars. The force was commanded by Colonel Nicolls of His Majesty's 14th Foot, then Quarter Master General of King's Troops, and afterwards Sir Jasper Nicolls, Commander-in-Chief in India. Moradabad was left on the 30th March, and moving by rapid marches, the force reached Chaumukhia Devi, where a depôt had been established, on the 6th April, and Katarmal on the 9th April. Colonel Nicolls assumed command of the whole force now assembled, which, including irregulars, must have numbered about 5,000 men. The Gurkhas holding Sitoli and Almora, in spite of any re-inforcements brought by Hastidal, were very much fewer in numbers. They were hard up for supplies and having received no pay, they were forced to plunder to live, and thus the aggravation of the people against them was further increased. A fortnight was now spent in negotiations, which led to nothing, till on the 22nd April, the crisis was produced by Hastidal taking a strong detachment, and marching northward from Almora.

The main object of this movement was to keep open the Gurkha communications by the northern route through Bagesir, though it also threatened the left of our position to Karamal, communications with Moradabad, and the source of supplies in Western Kumaon.

Hastidal moved over Kalimat, and by the Almora-Bagesir road, to Gananath, a mountain nearly 7,000 feet in height, which commands the Bagesir road north of the pass, where the road crosses the range to drop down the steep descent into the Sarju valley, in which stands the little town of Bagesir.

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 5 flank companies and 100 irregulars } under Major Patton.

The guns had to be sent back, owing to the difficulties of the road, but the remainder pushed up the Kosi valley from Katarmal, thence towards Gananath, which is distant from Almora about 15 miles, and before the next afternoon had located the Gurkhas. Tradition relates that news of their unpreparedness was brought to our force by the Brahmins of the little temple which stands on the top of Gananath, and that the time of the evening meal was indicated as most favourable for attack. In the evening our force advanced, climbing up the steep lower slopes of the mountain, thence emerging on the gentler sloping grassy lawns which are found above, to meet their enemy in a turfy glade among the pine woods, a little to the south of the temple of Gananath. The Gurkhas were taken by surprise, the contest was soon decided. After a short sharp fight the Gurkhas fled, with a loss of an officer and 32 men killed on the spot, while many wounded including their leader Hastidal, succumbed before reaching Almora.

This success was achieved with a loss on our side of only two killed and 26 wounded. On the good news reaching Colonel Nicolls, he at once decided to seize the opportunity thus offered, and, rightly reckoning on the disheartenment of the enemy and the corresponding elation of his own troops, arranged to assault the Sitoli position without delay. From the ridge of Katarmal the ground falls steeply down to the Kosi, here a little mountain river some thirty yards broad, deep pools alternating with fordable shallows, thence after a short steep rise, one comes out upon broad and easy spurs trending down from the bare and level ridge of Sitoli. Little hamlets, embowered in fruit trees, dot the hillside, and all the lower slopes are covered with terraced cultivation. The Sitoli ridge itself, and that on which Almora stands, are but underfeatures of the high bare range which lies north of Almora, and culminates at Kalimat, 1,000 feet above, and three miles distant from the town. The keys of the position lay in the narrow cols which join the ridges of Almora and Sitoli with the higher ground above, and form the natural lines of retreat from those positions towards Nepal. The Gurkhas were established behind stone breastworks and stockades on the Sitoli ridge, with other breastworks covering their right; on Kalimat was posted a detachment, and a small reserve in Almora.

At one o'clock on the afternoon of the 25th April Colonel Nicolls advanced to the attack with all the troops available.*

He moved up the long spur towards the north of the Sitoli position, intending to establish a battery within close range of the stockades, but his troops being in such good heart, he ordered the first two stone breastworks on the north end of the ridge to be assaulted without more delay. This was done in good style by the 4th Native Infantry. The irregulars under Colonel Gardner were advancing on a parallel ridge

*Major Patton's force remained at Gananath and Katarmal.

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to Pithoragarh

and, on the success of the Native Infantry, diverged to the right when near the summit, and seized the remaining stockades on Sitoli ridge. Fifty men of the 4th Native Infantry now worked to the left and seized another breastwork. So much being won, a slight pause ensued to get the troops together, and then a general advance was made on Almora by all practicable routes, five in number.

With the capture of a stockade on the road between Almora and Kalimat, the Raja's palace, and a stone fortification, the enemy were entirely cut off from Kalimat, and their retirement from Almora seriously compromised. By nightfall our troops were established close to the town, and on Haridungari above Pokhar Khali, at which place about half a mile north of the fort, Colonel Nicolls established his head quarters.

His Artillery officers, working hard, got up the smaller mortars, and at 6 P.M. opened fire on the fort, while by midnight the large 8-inch mortars joined in the bombardment. Things looked bad for the Gurkhas but, as usual, the worst extremity roused their most desperate effort.

Night attack by the Gurkhas. Towards midnight, the Gurkha detachment at Kalimat, covering their advance, so tradition says, by a herd of cattle with firebrands on their horns, swept down on our most northerly post, and drove out the defenders with a headlong attack. At the same time the Gurkhas in the fort made a gallant sortie against our main positions, right up to the stockades, some to fall dead inside. The northern stockade was retaken after severe hand-to-hand fighting by 100 native infantry supported by the same number of irregulars, led instantly to the spot by Colonel Gardner in person. Thrice afterwards the enemy renewed the unequal contest, and thrice were repulsed with slaughter on both sides. All night long continued skirmishing and the fire of musketry, all night the mortars kept up their steady fire of shells. On the cool dark ridge, with such a prize in view, that spring night must have been one to live for.

When morning dawned, the advanced troops pushed to within 70 yards of the fort, and one party, emboldened by the silence of the enemy, pushed up the street which runs to the east of the fort, to get at the main entrance door. They were met by fire, and fell back in good order.

The bombardment continued, until at 9 A.M. the Commander of the fort having taken counsel with Captain Hearsay, his prisoner, sent out a flag of truce and an armistice was agreed on. The Gurkhas, reduced by losses among their bravest, and by the defection of those who were not men of Nepal, had done all that soldiers could do, in the face of overwhelming odds.

Terms honourable to both parties were soon arranged, and under those terms the Gurkhas evacuated Almora at once, and all other forts in Kumaon within 10 days, retaining their arms, 11 guns, and their stores, and being provided with provisions.

They retired beyond the Kali into Nepal, and from that day Kumaon, and all the pleasant hills between the Kali and the Sutlej have remained in our undisputed possession.

The total losses among our troops in the fighting of the 25th and 26th April amounted to about two hundred killed and wounded, of whom a considerable number are creditably reported to have fallen by the fire of our own men in the confusion of the night attack.

On the ridge of Sitoli stands a monument to the officers who fell and in the traditions of the countryside the memory of the battle still remains green. Exact information on many points is now unobtainable, for, as the writer of the North-West Provinces Gazetteer somewhat caustically remarks, "the whole of the military correspondence and records of the period belonging to the Station Staff Office at Almora were (apparently about 1873) burned as waste paper, a fate which is gradually overtaking all the records in the country that are at all worth preserving."

The war against Nepal did not close with the successes at

The end of the war.

Malaun and Almora, for protracted and unsatisfactory negotiations with the Nepal Government necessitated a renewal of operations some months later. A fine army was placed under the direct command of Ochterlony, who, advancing from Dinapore reached Choriya Ghat on the Nepal border on the 10th February 1816. Opposed in a stockaded position of great strength, he, by a masterly movement, turned all the positions by a route though the hills deemed impassable, and reached Makwanpur, within 20 miles of Khatmandu.

Here the Gurkhas attacked him but were completely defeated with a loss of over 800 killed and wounded.

Peace was then concluded, a peace which has happily continued unto this day.

And now, are there any lessons which we may learn from the operations I have endeavoured to describe?

Concluding remarks.

There may be some who hold that at campaign fought so long ago, under conditions of armament so different from those of the present day, can hardly prove instructive now. For myself however I cannot hold that opinion. There must be, and there are, many lessons both of general and of particular application to be learnt from any campaigns, such as this, fought out on ground so similar in many respects to that found beyond our north-western border line, and against an enemy whose tactics—the tactics of brave mountaineers fighting in the hills they know—so closely resembled those of men we have so often opposed, and must often face again. What each and every lesson is, I do not propose to consider now. In the first place, there is no time, and even if there was, it must always be remembered that lectures such as this, delivered to an audience like the present, are not intended to be didactic but suggestive. I hope my narrative may have suggested some points worthy of your consideration. One thing, perhaps, I may say. If any

officers find themselves in the vicinity of Ranikhet and Almora let them, in the light of what was done on the same ground, consider how they themselves would act under modern conditions. Let them emulate or surpass, in theory at any rate, the strategy and the tactics of Nicolls and of Gardner, and some real benefit may then perhaps be reaped from my lecture this evening. One clear lesson at least may be learnt from this campaign. Let me give it you in the words of the General Order by His Excellency the Governor-General, dated the 16th May 1815, in which order the services of Nicolls and of Ochterlony are warmly eulogized and held up as an example to the Army: "Warfare in a mountainous region offers embarrassments, which when viewed at a distance appear unsurmountable, but which dwindle into comparative insignificance under the grasp of vigour and genius.

"It is only in unusual situations demanding readiness of resource and animated effort that the difference between officer and officer can be displayed, and it ought to be always present in the mind of every military man that he who in circumstances of perplexity tries and fails has to plead those chances from which no operation of war can be secured, his pretensions to the character of zeal and energy being in the meantime displayed; while he who contents himself with urging difficulties as an excuse for doing nothing voluntarily registers his own inefficiency."

THE SIKH RELIGION AND ITS ADVANTAGES TO THE STATE.

FIRST LECTURE BY M. MACAULIFFE, ESQ., I.C.S., RETIRED, M.R.A.S.,
6TH JULY 1903.

The Hon'ble Sir C. M. Rivas, K.C.S.I., in the Chair.

His Honour the Lieutenant-Governor's introductory remarks :

Ladies and gentlemen,—Mr. Macauliffe, whom I have the pleasure of introducing to you and who is going to deliver a lecture this afternoon on the religion of the Sikhs, is a retired officer of the Indian Civil Service who, during his service in the Punjab, took much interest in the Sikhs, and since he retired has translated into English the most important portions of their sacred books.

These translations have been submitted to the careful scrutiny and criticism of the most competent students and interpreters of their religious literature among the Sikh community, and his translations have also come under the notice, and have received the favourable commendation, of the most competent authorities on Oriental literature in Europe. I think therefore that we may confidently anticipate an interesting lecture.

Mr. Macauliffe :—

I have undertaken to read this paper, in the first place, to give a brief account of the Sikh religion, and, in the second place, to explain some of its advantages to the Government of this country. What I have to say on this occasion is necessarily fragmentary. It would require many lectures to set forth the beauties and utility of the Sikh religion. Every body has heard of the loyalty and devotion of the Sikhs to the British, but when it comes to enquiring what their religion is, very few seem to know. This ignorance is not confined to people of ordinary education, it extends even to some of the greatest Oriental scholars, for there is no work which really deals with the subject, and acquaintance with the Sikh writings can only be obtained by several years' study in this country. Horace Hayman Wilson's account of the Sikhs was professedly based on Malcolm's "Sketch" and some researches made by Captain Murray and other visitors to the Panjab at different times in the first half of the last century. Malcolm was an observant and painstaking writer whose remarks and conclusions on Indian administration still deserve attentive study, but, owing to the difficulties of the Sikh sacred writings, he had not sufficient time to thoroughly investigate them. The scope of Captain Cunningham's excellent and impartial "History of the Sikhs" was essentially political, and he necessarily confined himself in the first three chapters of his work to some of the external observances of the Sikhs and to such details of their Gurus as are popularly mentioned.

The only writer who undertook to give a full account of the Sikh religion was Dr. Trumpp, a German missionary employed by the India Office to translate the Ad Granth. When he visited Amritsar, the headquarters of the Sikh religion, he, through the agency of the Civil Officers, had the Sikh priests of that city summoned before him. In the course of their conference he told them he was versed in Sanskrit literature and they were not, *ergo* he understood the Granth Sahib better than they. The conference ended by his pulling out his cigar case and perfuming the Granth Sahib, which lay before him on the table, with tobacco smoke. The use of tobacco not being allowed in the Sikh religion, the gyanis fled in horror at what they deemed the profanation of their sacred volume. For these and other reasons, partly due to the conservatism of the Sikhs at that period, Doctor Trumpp was unable to obtain the assistance of competent gyanis or interpreters of the Sikh scriptures, and after some time he took the Ad Granth to Munich with him, and there, aided by the German Genius of industry, produced what he considered a translation of it. Any one gifted with the power of divination may be able to understand portions of it; and the manner in which he allowed his odium theologicum to assert itself may be found described in Sikh memorials to the Viceroy. I much regret to have to make these remarks on a departed scholar, who was plodding and earnest in his own way. I only do so because men, who ought to know better, have so often met me with the objection that his work, which the Sikhs regard as a standing insult, is a sufficient exposition of their religion.

These books on the table are the Ad Granth and the Granth of the tenth Guru. The Ad Granth contains the compositions of Guru Nanak, the founder of the Sikh religion; of his successors Gurus Angad, Amardas, Ramdas, and Arjan; hymns of the Hindu Bhagats, or Saints, Jaidev, Namdev, Trilochan, Sain, Ramanand, Kabir, Raidas, Pipa, Bhikhan, Beni, Permanand, Surdas, Sadhna, Dhanna Jat; verses of a Musalman saint, called Farid; and panegyrics of the Gurus by the bards who either attended them or admired their character. The compositions of Guru Teg Bahadur, the ninth Guru, were subsequently inserted in the Granth Sahib in the space left vacant for them by Guru Arjan. And one recension of the sacred volume preserved at Mángat in the Gujrat district contains a hymn composed by Mira Bai, Queen of Chitaur.

The Granth of the tenth Guru contains his Jápji, the Akál Ustit or Praise of the Creator, the Vachitar Natak or Wonderful Drama, in which the Guru gives an account of his parentage, divine mission, and the battles in which he had been engaged. Then come three abridged translations by different hands of the Devi Mahatmya, an episode in the Markandeya Puran, in praise of Durga the goddess of war. Then follow the Gyan Parbodh or awakening of knowledge, accounts of twenty-four incarnations of the Deity selected because of their warlike character, the Hazáre de Shabd, quatrains called sawaie, which are religious hymns in praise of God and reprobation of idolatry and hypocrisy; the Shastar Nám Mála, a list of offensive and defensive weapons used in the Guru's time, with

special reference to the attributes of the Creator ; the *Tria Charita* or tales illustrating the qualities, but principally the deceit of women, the *Kabit* compositions of a miscellaneous character ; and the *Zafar-nama* containing the tenth Guru's epistle to the Emperor Aurangzeb and several metrical tales in the Persian language. The *Granth* of the tenth Guru is only partially his composition. The greater portion of it was written by bards in his employ.

These two volumes are in several languages and dialects. The *Ad Granth* is largely in old Panjabi and Hindi, but *Prakit*, Persian, Marathi, and Gujrati are also represented. The *Granth* of the tenth Guru was written in the old and very difficult Hindi affected by literary men in the Patna District three centuries ago. In neither of these sacred volumes is there any separation of words. As there is no separation of words in Sanskrit, the gyanis or interpreters of the Guru's hymns deemed it would be a profanation to separate the words of their sacred writings. It would be absurd to say that the object of the gyanis was to keep all divine knowledge to themselves, but at any rate the result is that the Sikh laity have now thrust aside the gyanis and their learning, and are content to dispense with both. Hence one of the many causes of the decline of the Sikh religion.

Now as to the arrangement of the hymns of the *Ad Granth*. They are not arranged, as we should say in Hindustani, *Guruwar* or *Bhagat-war*, that is, according to Gurus or Bhagats, but *rāgwar* or according to *rāgs* or musical measures. There are thirty-one such measures in the *Ad Granth*, and the hymns are arranged according to the measures to which they were composed. The Gurus who composed hymns, that is, the first, second, third, fourth, fifth, and ninth Gurus, all used the name Nanak as their *takhallus* or *nom-de-plume*. Their compositions are distinguished by *mahallas* or stories. Thus the compositions of Guru Nanak are styled *mahalla one*, that is, the first story. The compositions of Guru Angad are styled the second story, and so on. After the hymns of the Gurus are found the hymns of the Bhagats under their several musical measures. The Sikhs generally dislike any arrangement of the *Ad Granth* by which the compositions of each Guru or Bhagat should be separately shown.

The Sikh religion differs, as regards the authenticity of its dogmas, from most other great theological systems. Many of the great teachers the world has known have not left a line of their own composition ; and we only know what they taught through tradition or second-hand information. If Pythagoras wrote any of his tenets, his writings have not descended to us. We only know the teaching of Sokrates through the writings of Plato and Xenophon. Budha has left no memorials of his teaching, and for it we are obliged to depend on works largely tinctured with romance. Kung fu-tze, known to Europeans as Confucius, left no writings in which he detailed the principles of his moral and social system. The Arabian Prophet did not himself reduce to writing the chapters of his *Quran*. They were written or compiled by his adherents and followers. But the compositions of the Sikh Gurus are preserved in these volumes, and we know at first-hand what they

taught. They employed the vehicle of verse which is unalterable by copyists, and we even become in time familiar with their different styles. No spurious compositions or extraneous dogmas can, therefore, be palmed off on us as theirs.

During what we call the dark ages religion was in no better condition in Asia than it was in Europe. Gurdas, a Sikh writer who flourished in the end of the sixteenth and the beginning of the seventeenth century, describes the deplorable state of the morals of the age before the appearance of the Bhagats and Gurus. His writings are calculated to give a severe shock to the *laudatores temporis acti*.

Men's ideas and aspirations were low. Mammon fascinated the world and led every one astray. Good acts no longer commended themselves to men. They burned with pride, and respected not one another. High and low forgot their mutual duties. Monarchs were unjust, and their nobles were butchers, who held knives to men's throats. Everybody thought he possessed knowledge, but none knew in what knowledge or ignorance consisted. Men did what pleased themselves. Alchemy and thaumaturgy were professed, incantations and spells practised, and men indulged in strife, wrath, and mutual jealousies. In the general disorder every one adopted a religion of his own. Out of the one God they made many, and carved gods, attractive and unattractive, from wood and stone. Some worshiped the sun or moon, others propitiated the earth, sky, wind, water, or fire, and others again the God of death, while the devotion of many was addressed to cemeteries and cremation grounds. Thus did men go astray in vain religions and vain worship.

Men despised one another and hence caste received religious sanction. The Brahmans set the Veds, the Purans, and the Shastars at variance. The professors of the six schools of Hindu philosophy quarrelled with one another, and while so employed indulged to their hearts' content in hypocrisy and superstition. Not only were the Hindus divided into four castes, but the Muhammadans were divided into four sects, and while the Hindus worshiped the Ganges and Banaras, the Muhammadans addressed their devotions to Makka and the Kaaba. The evil spirit fascinated the members of both religions; they forgot their holy books; they went astray on every road; and truth was the one thing they failed to discover. Thus far Gurdas on the morals of his age.

Indeed, there is a wonderful analogy between the spiritual condition of Europe and Asia during the period to which I refer. After the mental darkness which Gurdas described, a great cyclic wave of reformation overspread both continents. In Europe most religious works were written in Latin, in India they were in Sanskrit. In both continents all learning was in the hands of the priesthood, and this admittedly led to serious abuses. During the very period that Wickliffe and Luther and Calvin in Europe were warning men of the errors that had crept into Christianity, men like Kabir and Guru Nanak were denouncing priestcraft, hypocrisy, and idolatry in India, and with very considerable success. Most of the Indian mediæval saints who led

the crusade against superstition, founded sects which still survive, but the most numerous and powerful of all is the great Sikh sect founded by Baba Nanak, which already forms a considerable section of the population of the Punjab, and which is scattered in greater or less numbers throughout the whole of India.

The cardinal principle of the Gurus and Bhagats whose writings find place in the sacred books of the Sikhs was the unity of God. This is traced to the Vedic postulate *Eko Brahm, dutiya nasyev*, there is one God, there is no second. This is everywhere inculcated in the Sikh sacred writings with ample and perhaps not unnecessary iteration, considering the forces Sikhism had to contend with in an age of ignorance and superstition.

Starting from the unity of God, Guru Nanak and his followers rejected the idolatry and superstitions of the Hindus, and taught that dire vengeance would pursue those who worshiped idols and creatures of the Creator's hands.

Thus Guru Amardas—

Curse on the lives, curse on the habitations of those who worship strange gods !

They abandon ambrosia and turn to poison, they earn poison ;
poison is their stock in trade ;

Poison their food, poison their dress, morsels of poison they eat.

Here they are totally miserable, and when they die their abode shall be in hell.

Guru Arjan writes :—

To whom else shall I pray ; whom else shall I worship ? It is
God who created all.

Again Guru Arjan—

It is the servants of the True King who are acceptable ;

The fools who serve any other God pine away and die.

And again—

He who forsaketh God and attacheth himself to idols shall abide
in hell.

Guru Gobind Singh, the tenth and last Guru of the Sikhs, writes :—

Some worshiping stones put them on their heads ; some suspend
lingams from their necks ;

Some see the God in the South ; some bow their heads to the
West.

Some fools worship idols, others busy themselves with worship-
ing the dead.

The whole world entangled in false ceremonies hath not found
God's secret.

The doctrines of the immortality of the soul and of transmigration were adopted in their entirety by the Sikhs ; and they were

taught to believe that good works and the utterance of God's name were the most meritorious human acts leading to absorption in God and release from the pain of transmigration.

Jaidev, the author of the "Gitgobind," known to most discriminating readers through the mellifluous verse of Sir Edwin Arnold, is not generally known as a religious reformer. In the Ad Granth of the Sikhs are found two hymns of his in the Prakrit language of his time, in which he represents God as distinct from nature, yet everywhere present. He taught in the end of the twelfth century of the Christian era, that the practice of jog, sacrifice, and austerities were as nothing in comparison with the repetition of God's name, and he inculcated the worship of God alone in thought, word, and deed. What was worthy of worship, he said, he had worshiped; what was worthy of trust he had trusted; and he had become blended with God as water blends with water. Jaidev was followed by numerous Hindu saints, whose intellectual vision was sufficiently acute to perceive that the superstitions of the age only led to spiritual blindness.

Of these saints Ramanand was one of the most distinguished. He flourished in the end of the fourteenth and the beginning of the fifteenth century. Unfortunately but little is known of his life. His followers make it a special object to keep all details regarding him profoundly secret. So much, however, has transpired, that he was born at Mailkot in the south of India, and that he, after a long study of Hindu theology in his own country, visited Banaras, then, as now, the great stronghold of the Hindu religion.

While at Banaras, Ramanand laid aside several social and caste observances of the Hindus, called his disciples the Liberated, and freed them from all restrictions in eating and social intercourse. The following hymn of Ramanand is preserved in the Granth Sahib. He had been invited by a Brahman to attend Hindu religious worship; and the following was his reply:—

Whither shall I go? I am happy at home.
 My heart will not go with me; it hath become a cripple.
 One day my heart desired to go;
 I ground sandal, took attar of roses and many perfumes,
 And was proceeding to worship in the temple of Brahma,
 But my spiritual guide showed me God in my heart.
 Wherever I go I find only water or stones,
 While Thou, O God, art equally contained in everything.
 The Veds and the Purans I have all seen and searched.
 Go thou to that temple, if God be not here.
 O true Guru, I am a sacrifice unto Thee
 Who hast cut away all my perplexities and doubts.
 Ramanand's Lord is the all-pervading God;
 The Guru's word hath cut away millions of sins.

The greatest of all Ramanand's followers was Kabir. He is said to have been born of a virgin widow as the result of a prayer offered for her by Ramanand in ignorance of her status. The most recent research into the life of Kabir represents that he was born in May A. D. 1398. After his birth he was exposed on the margin of a lake near Banaras, where he was found by a Musalman weaver. The word Kabir in the Arabic language means great; and great was Kabir in every sense of the word. According to a tradition in his own country, a favourite expression of his was, "If God is a stone, then I will worship a mountain. Than that stone better is a hand-mill which grindeth corn and giveth food to the world." In another place Kabir says—

"The sculptor carving a stone turneth it into an idol, and in doing so putteth his foot upon its breast;

If it were a real God it would eat him up."

I give the following specimens of his compositions:—

Kabir thus reprobated hypocrisy:—

Why display to men thy wooden rosary?

If thou remember not God in thy heart, what availeth thy rosary?

Why doth the Muhammadan priest ascend the minaret?

The Lord is not deaf.

Search within thy heart for Him for whose sake thou callest to prayer.

The following are satires on the ritualistic practices of the Hindus:—

If union with God be obtained by going about naked,

All the deer of the forest shall be saved.

It mattereth not whether one goeth naked or weareth a deerskin,

If he recognise not God in his heart.

If supernatural power be obtained by shaving the head,

Why should not sheep obtain salvation?

If, O brethren, the continent be saved,

Why should not a eunuch obtain the supreme state?

Saith Kabir, hear, O my brethren,

Who hath obtained deliverance without the name of God?

How many wear the bark of trees as clothes! What if men dwell in the forest?

What availeth it, O man, to offer incense to idols and drench thy body with ablutions?

O my soul, I know that thou shalt depart.

O silly one, know God.

Wherever I look, I see none but those who are entangled in worldly love.

Men of divine knowledge and meditation, great preachers are all engrossed in this world's affairs.

Saith Kabir, without the name of the one God, this world is blinded by mammon.

In Kabir's opinion God "prefers before all temples the upright heart and pure"—

What availeth devotion, what penance, what fasting, and worship

To him in whose heart there is worldly love?

O man, apply thy heart to God.

Thou shalt not obtain Him by artifice.

Put away covetousness and regard for what people say of thee.

Renounce lust, wrath, and pride.

By the religious ceremonies of the Hindus conceit is produced.

That if they join and worship a stone they shall receive salvation.

Saith Kabir, by serving Him I have obtained the Lord.

By becoming simple in heart I have met my God.

The following is a satire on the Brahmins of Banaras:—

They wear loin-cloths three and a half yards long and three sacrificial threads;

They carry rosaries on their necks, and glittering brass utensils in their hands.

They should not be called saints of God, but cheats of Banaras.

Such saints are not pleasing to me;

They gulp down trees with their branches;

They scrub their vessels and put them on fires whose wood hath been washed;

They dig up the earth, make two fire-places, and eat up men whole.

Those sinners ever wander in sin, yet they call themselves the Untouching.

Ever and ever they wander about in their pride, and ruin all their families.

Man is attached to what God hath attached him, and his acts correspond.

Saith Kabir, he who meeteth the true Guru shall not be born again.

The following was addressed to a Qazi who desired that Kabir should perform the usual Muhammadan fasts and ceremonies.

I am God's poor slave; royal state is pleasing to thee.

The eternal God, the Lord of religions, never ordained tyranny.
O Qazi, nothing is accomplished by mere words.

It is not by fasting and prayer and repeating the creed that
man goeth to Heaven.

The inner veil of the temple of Makka is in man's heart if the
truth be known.

The administration of justice should be thy prayer, knowledge
of the Inscrutable One thy creed,

The subjugation of thine evil passions thy prayer-carpet, then
shouldst thou know what religion is.

Recognize the Lord, take pity in thy heart on living things,
subdue and restrain thy pride.

Know God thyself and cause others to know Him, then shalt thou
become a partner in heaven.

Matter is one, but hath assumed divers shapes ; in the midst of
them recognise God.

Saith Kabir, thou hast abandoned heaven and attached thyself
to hell.

The following is a remonstrance to a Pandit who found impurity
and caste defilement in almost everything :—

There is impurity in water, there is impurity in land, there is
impurity in whatever is born.

There is impurity in birth itself, again in death ; God's subjects
are ruined by this belief in impurity.

O Pandit, tell me who is pure.

Tell me what you know on the subject, my friend.

There is impurity in the eyes, there is impurity in the tongue,
there is impurity in the ears.

In standing or sitting there is impurity ; impurity entereth the
kitchen.

Every one knoweth how to be caught in impurity, but scarcely
any how to escape from it.

Saith Kabir, no impurity attacheth to him who meditateth on
God in his heart.

Guru Nanak, who was born at a place called Tulwandi in the
southern part of Lahore district and flourished a century after Kabir,
has several hymns on the same subject. Thus in the Asa ki War—

If the idea of impurity be admitted, there is impurity in every-
thing.

There are worms in cow-dung and wood ;

There is no grain of corn without life.

In the first place, there is life in water by which everything is
made green.

How shall we avoid impurity ? It falleth on our kitchens.

Saith Nanak, impurity is not thus washed away; it is washed away by divine knowledge.

Impurity of the heart is greed, impurity of the tongue is falsehood;

Impurity of the eyes is gazing on another's wealth, his wife, and her beauty;

Impurity of the ears is listening to slander.

Nanak, even the pretended saint who practiseth such things shall go bound to hell.

All impurity consisteth in superstition and attachment to worldly things.

Birth and death are ordained; as it pleaseth God, we come and go.

The eating and drinking which God sent as sustenance are pure.

Nanak, the pious persons who know God have no impurity.

It is this belief in impurity and defilement which made the Scribes and Pharisees of old a sect apart, and which still socially separates the Hindus from the members of all other religious denominations. It is admitted by all scholars that several of the injunctions of our Saviour have been traced to the sayings and writings of religious teachers before his time, but I have nowhere read that his teaching in the seventh chapter of the gospel according to St. Mark had been uttered by any human being previously. When the Scribes and Pharisees saw some of his disciples eating bread without previous ablutions, they found fault "for all the Jews, except they wash, eat not. And many other things there be which they have received to hold, as the washing of cups and pots, brasen vessels and tables." Christ replied, "There is nothing from without a man that entering him can defile him, but the things which come out of him, these are the things which defile a man." Foreign residents in India who have been brought in contact with its inhabitants, can best appreciate the supreme importance of this utterance. By it Christ emancipated his followers for ever from the thralldom of caste, and opened the portals of progress and enlightenment to his fellow creatures.

We have seen that the utility of the principle was realised by Ramanand. It appeared as bright as the brightest star to Kabir and Guru Nanak, and it was subsequently repeated with marvellous lucidity and cogency by their successors. Without assistance from on high the spirit of Reform may flap her wings within her iron cage in vain, for, as long as men remain in the backward condition of the Pandits satirised by Kabir and Guru Nanak, there is scant hope of their social or material advancement. It is satisfactory to find that some of the very ablest Hindus of the present time urge this with all the powers of their eloquence and earnestness.

When Guru Nanak visited Jagannath he was invited by the High Priest to assist in the Hindu worship which was being performed. At such worship at rich temples a salver studded with gems is produced,

On it are placed flowers, lamps, and incense. The salver is then waved before the idol to the accompaniment of drums, bells, shells, and occasionally cymbals. Baba Nanak, instead of joining the Hindu worship, raised his eyes to heaven and gave utterance to the following sublime hymn :—

The sun and moon, O Lord, are Thy lamps ; the firmament, Thy salver ; the orbs of the stars, the pearls enchased in it.

The perfume of the sandal is Thine incense, the wind is Thy fan, all the forests are Thy flowers, O Lord of light.

What sort of worship is this, O Thou Destroyer of fear ? Unbeaten strains of ecstasy are the trumpets of Thy worship.

Guru Nanak addressed the following to a Brahman in Banaras.

O Brahman, thou worshipest and propitiatest the saligrám, and deemest it a good act to wear a necklace of sweet basil.

Why irrigate barren land and waste thy life ?

Why apply plaster to the frail tottering wall ?

Repeating God's name, form a raft for thy salvation ; may the Merciful have mercy on thee !

Inveighing against idolatry, preaching the unity of God, and loftily invoking Him as the Eternal, the Omnipotent, the Incomprehensible, and the Self-Existent, Guru Nanak subordinated the Hindu gods to the supreme Deity of his own conception. This may be better understood from the following extract from his Japji, which I have freely rendered in blank verse—

What is that gate, that mansion what, where Thou
Dost sit and watch o'er all Thy wondrous works ?
Many the harps and songs which tune Thy praise,
Yea countless ; Thy musicians who can tell ?
How many measures sung with high delight,
And voices which exalt Thy peerless name !
To Thee sing water, wind, and breathing fire ;
To Thee sings Dharamraj in regions drear ;
To Thee sing th' angels who men's deeds record
For judgment final by that king of death ;
To Thee sing Shiva, Brahma, and the Queen
Of Heav'n with radiant beauty ever crown'd ;
To Thee sing Indra and th' attendant gods
Around his throne, and seraphs at his gates ;

To Thee sing Sidhs in meditation deep,
 And holy men who ponder but on Thee ;
 To Thee sing chaste and patient of mankind,
 Unyielding heroes of true faith approved ;
 To Thee sing Pandits and the Chiefs of Saints,
 The ages four and Veds to them assigned ;
 To Thee sing heroes and the men of might,
 The sources four from which all life doth spring ;
 To Thee sing regions, orbs, and universe,
 Created, cherished, and upheld by Thee.
 To Thee sing those whose deeds delight Thine eye,
 The hosts that wear the colours of Thy faith.
 All things beside which sing Thy glorious name,
 Could ne'er be told by Nanak's lowly song.

Guru Nanak's conception of what is and is not religion is given in the following :—

Religion consisteth not in a patched coat, or in a beggar's staff,
 or in ashes smeared on the body ;

Religion consisteth not in earrings worn, or a shaven head, or
 the blowing of horns.

Abide pure amid the impurities of the world ; thus shalt thou find
 the way to religion.

Religion consisteth not in mere words.

He who looketh on all men as equal, deserveth to be called reli-
 gious.

Religion consisteth not in going abroad and visiting tombs or
 places of cremation, or sitting in attitudes of contemplation :

Religion consisteth not in roaming in foreign countries, or in
 bathing at places of pilgrimage.

Abide pure amid the impurities of the world ; thus shalt thou
 find the way of religion.

On meeting a true Guru, doubt is dispelled, and the wandering
 of the mind restrained.

Ecstatic sounds are heard, it raineth nectar, and the heart
 becometh happy.

Abide pure amid the impurities of the world, thus shalt thou
 find the way of religion.

Nanak, in the midst of life be in death ; thus shalt thou gain the advantage of religion.

When thy horn soundeth without being blown, thou shalt obtain the fearless dignity ;

Abide pure amid the impurities of the world ; thus shalt thou find the way of religion.

The rejection of caste was a necessary consequence of the equality of men so insisted on by the Gurus and Bhagats of the Sikh religion. Thus Kabir—

When dwelling in the womb man hath neither family nor caste.

All things have sprung from the seed of Brahm.

Say, O Pandit, how long hast thou been a Brahman ?

Do not waste thy life calling thyself a Brahman.

If thou art a Brahman born of a Brahman mother,

Why didst thou not come some other way ?

How art thou a Brahman and I a Sudra ?

How am I made of blood and thou of milk ?

Saith Kabir, in my estimation,

Only he who knoweth God is a Brahman.

In the Asa ki War we find the following verses of Guru Nanak :—

Caste hath no power in the next world : there is new order of beings.

Those whose accounts are honored are the good.

Again Guru Nanak wrote—

Castes are nonsense, names are nonsense.

All creatures have one shelter—that of God.

And again—

What power hath caste ? It is the reality that shall be tested :

Poison may be held in the hand, but man dieth if he eat it.

The Guru means that caste becomes deadly if exclusive reliance be placed in it for salvation.

Guru Amárdas writes—

Let none be proud of his caste.

He who knoweth God is a Brahman.

O stupid fool, be not proud of thy caste ;

From such pride many sins result,
 Every body saith there are four castes ;
 But they all proceed from God's seed.
 The world is all *made out* of one clay,
 But the Potter fashioned it into vessels of many descriptions.

The concrementation of widows was practised in this country in very early times. It had long been known that widows were not always willing agents in their sacrifice, but at any rate the custom was horrible and opposed to all natural feelings. When Lord William Bentinck resolved to abolish it, he would have been highly gratified and strengthened in his purpose, had he known that the practice was forbidden in the Granth Sahib, though not unfortunately by the later usages of Hinduised Sikhs. Guru Arjan writes :—

In the Kalyug man and woman meet in union.
 They enjoy one another as long as it is the will of God.
 The widow meeteth not her beloved Lord by burning herself,
 Although she become a Sati to be united with him.
 Following the example of others, widows burn themselves
 through obstinacy.
 They do not thus obtain the company of their dear ones, but
 wander long in transmigration.
 The woman who in virtue and continence obeyeth her husband,
 shall never suffer in the world.
 She who considereth her beloved as her God,
 Is the blessed Sati who shall be acceptable in God's Court.

There are also some other hymns in the Granth Sahib to the same effect.

The immurement of women is a subject that has been noticed and deplored by most writers on the East. Though women once appeared in public at swayamvaras and on other occasions, it is to be feared that their immurement has always been a general practice in most Oriental countries. Kabir was strong enough to raise his voice against it. He addressed the following to his son Kamal's wife.

Stay, stay, my daughter-in-law, veil not thy face ;
 At the last moment it shall not avail thee a kauri.
 Thy predecessor used to veil her face ;
 Follow not thou in her footsteps.
 The only advantage of veiling thy face is

That for four or five days people may say a virtuous daughter-in-law hath come.

Thy veil shall only be real,

If thou sing God's praises, and skip and dance in His service,

Saith Kabir, O daughter-in-law, thou shalt be victorious

When thy life passeth in singing God's praises.

The Raja of Mandi and his queens once went to visit Guru Amardas. One of the queens lately married would not remove her veil. The Guru quietly said to her, "Crazed lady, if thou art not pleased with the Guru's face, why hast thou come?" On this, it is said, she became insane and casting aside her clothes, ran naked into the forest. Efforts were made to stop her, but she succeeded in escaping and baffling pursuit.

It is a common belief that the Sikhs are allowed to drink wine and other intoxicants. There cannot be a greater mistake. Kabir writes—

The mortals who eat bhang and drink wine shall all go to hell,

Whatever pilgrimages, fastings, and daily devotions they may perform.

Guru Amardas has also said—

One man filleth and bringeth the goblet, another cometh and filleth the cup.

The intellect of him who drinketh departeth, and intoxication entereth his brain ;

He distinguisheth not between mine and thine, and is buffeted by his master.

If possible, drink not at all the false wine,

By which man forgetteth God and receiveth punishment at His court.

He who by God's favour meeteth the true guru, obtaineth the true wine from him.

Thus shall man ever abide in the joy of the Lord, and obtain a position in His court.

While on this subject I may refer to another popular error. It is generally believed that the Sikhs are bound to abstain from the flesh of kine. The two Granths of the Sikhs and all their canonical writings are absolutely silent on the subject. Sikhs have adopted many Hindu usages, and among others the prohibition of the flesh of kine. This became a rigid article of faith of the Kukas, a heretical sect of Sikhs. Some few among this audience may be old enough to remember the murder by Kukas of several butchers in Amritsar years ago, the result of this erroneous belief.

The Sikhs are not bound to abstain from any flesh except that which is obviously unfit for human food. Many, perhaps the great majority of Hindus, abstain totally from the use of flesh. The Brahmans were horrified when they saw Guru Nanak eating the flesh of a deer which had been presented to him. He replied—

Fools wrangle about flesh, but they know not divine knowledge or meditation on God.

They know not what is flesh, or what is vegetable, or in what sin consisteth.

It was the custom of the gods to kill rhinoceroses, perform *hom* sacrifices and feasts.

Those who forswear flesh and hold their noses when near it devour men at night.

They make pretences to the world, but know not divine knowledge or meditation on God.

Nanak, why talk to a fool? He cannot reply or understand what is said to him.

He who acteth blindly is blind ; he hath no mental eyes.

Those whose guru is blind, eat things that ought not to be eaten, and abstain from what ought to be eaten.

In flesh we are conceived, from flesh we are born ; we are vessels of flesh.

Flesh adorneth sacrifices and marriages ; flesh hath always been associated with them.

Flesh is allowed in the Purans, flesh is allowed in the books of the Musalmans, flesh hath been used in the four ages.

Women, men, kings, and emperors spring from flesh.

If men appear to you to be going to hell, then accept not their offerings.

See how wrong it would be that the givers should go to hell and the receivers to heaven.

Thou understandest not thyself, yet thou instructest others ; O Pandit, thou art very wise.

On this subject and also on the prohibition of idolatry by the Sikh Gurus I beg to give an extract from a letter addressed to me by that illustrious Oriental scholar, the late Professor Weber of Berlin :—

“It is very curious that a religion which began under the influence of Islam with monotheism in a somewhat quietistic form, has finally ended in a fanatical opposition to the Moslems, and in rendering its followers their martial antagonists. This was possible only by another very curious fact which characterizes the Sikhs, *vis.*, their adoption of the practice of eating meat. Thus they became muscular,

vigorous, strong, and fit for martial duties. When the Hindus left off the old practice of eating meat, they became a prey to foreign invaders. I have often spoken on this subject. It is a great pity that the number of Sikhs is so very restricted. They are the best soldiers in the Indian Army; and if ever (*absit omen!*) British rule in India should really be endangered, the Sikhs will remain, let us hope, its firm supporters."

The Arabian prophet conferred two among other great benefits on his people. He strongly denounced idolatry and the murder of female children, a practice then prevalent in Arabia, and indeed not unknown even to the ancient Greeks and other nations. The statistics of the last census, with which Mr. Rose has kindly favored me, everywhere show a great excess of males over females in the Sikh States. The practice of infanticide is most strenuously forbidden the followers of the Sikh Gurus. There are several passages in the *Ad Granth* in which the slayers of daughters are enumerated among the most heinous criminals. An obligation not to kill their daughters is specially imposed on all Sikhs at the time of baptism; and they are even forbidden to associate with those who do so. The practice of infanticide is denounced in all *Rahit Namas* or rules for the guidance of Sikhs. When John Lawrence and other pioneers of British rule entered the Panjab, their attention was soon drawn to the practice that obtrusively existed, and they issued many instructions and imposed many obligations on the people to abstain from it. The efforts of John Lawrence and his colleagues were based on moral grounds, but of course the written injunctions on the subject were not known to Europeans. We want the Sikhs to increase rather than decrease in numbers, and it will be a serious thing if their attention is not effectually called to the precepts of their religion which forbid the murder of innocent children.

I have said that smoking is not allowed in the Sikh religion. At a time when James I of England issued his "Counterblast against tobacco," monarchs in the East were offering even greater opposition to the noxious drug. The Emperor Jahangir issued an order against its use, but was obliged to modify it in deference to the wishes of his beautiful queen, Nur Jahan, who doubtless thought that the graceful manipulation of a golden snuff-box or *huqqa* enhanced her manifold charms. Guru Teg Bahadur, the ninth Guru, was the first Guru to preach against tobacco. At a place called *Bárna* in the Panjab, he preached as follows to his host:—

"Save thy people from the vile drug, and employ thyself in the service of Sikhs and holy men. Rely on the Guru who is the protector in both worlds. He giveth his hand and saveth from affliction. When thy people abandon the degrading smoke and cultivate their lands, their wealth and posterity shall greatly increase, and they shall want for nothing. They shall possess cows and buffaloes in abundance, and they shall be respected by the world, but when they smoke the vile vegetable they shall grow poor and lose their wealth."

Guru Gobind Singh adopted his father's ideas on the subject, and vehemently declaimed against the use of tobacco, which he called the world's leavings. One day as he was hunting he came on a field of tobacco. He stopped his horse and declared that the field which produced tobacco was impure. He maintained that tobacco burned the chest, induced bronchitis and other diseases, and finally caused death. He therefore counselled his Sikhs to abstain from the destructive drug, and thus concluded his discourse. "Wine is bad, bhang destroyeth one generation, but tobacco destroyeth all generations."

The tenth Guru not only preached against tobacco but even forbade association with smokers, whom he placed in the same category as those who killed their daughters. Even young Sikh boys repeat with delight the Guru's injunction "Nárimár kurimár nal na wartana"—do not associate with those who smoke or kill their daughters. The tenth Guru after the establishment of his pahul or baptism added an ordinance, that whoever smoked tobacco must be excommunicated from the Khalsa, and only readmitted on a second baptism, but even then he should be like a broken vessel that was mended, and might never be deemed holy enough to administer baptism to a Sikh.

The result of the Guru's prohibition is seen in the stalwart physique of the Sikhs and in the tendency to diminution of stature in other races. Pathological observations and researches have shown that the use of tobacco saps the youth of what are called the most advanced and civilised nations of the world. In Rotten Row in London may be observed the difference in stature between women who do not smoke, and men who do. Such women look down not only morally, but physically on men who are not proof against the temptation of the drug.

On the subject of gratitude for benefits received—what is known in this country as fidelity to one's salt—Gurdas, who has been called the St. Paul of Sikhism, writes:—

"To the earth the mountains which touch the sky appear not heavy, nor do a million forts and houses, nor do oceans, rivers, and streams, nor do trees laden with their fruit, nor do the countless men and lower animals who wander on it. What appeareth heavy is the load of the ungrateful, who are the worst of all men."

Gurdas gives some anecdotes on the subject; for instance, the following:—

"A thief went and entered a king's house. Having searched the lower apartments he proceeded to the upper story. Having made a bundle of gold and silver, he went in quest of more. Maddened with a fit of greed, he seized a vessel of salt. When he took it up and tasted it, he changed his mind and took not a particle of the king's property away, because he reflected that he who is untrue to his salt is the worst sinner."

Gurdas then issued the following injunctions on the subject :—

“ Let him who eateth another's salt become his slave, grind, and draw water for him. Whoever while doing service for another eateth his salt, should die cut to pieces for him in the battle-field. He should deem himself his master's daughter or son, and never be ashamed to serve him. The dealer who hath eaten another's salt should stand before him with clasped hands in an attitude of supplication. When a wayfarer eateth a man's salt on his travels, let him remember the donor and string his praises as a necklace. The sinner who is untrue to his salt, ruineth his life and dieth an evil death.”

On the subject of philanthropy Guru Angad, the second Guru, said—

“ The best devotion is the remembrance of the True Name; the best act is philanthropy. Without both of these accursed is man's human birth. He merely vegetateth and heedeth not what is best for him. He is a beast without a tail or horn, and vain is his advent into the world. At the last moment the myrmidons of Death shall firmly seize him, and he shall depart grieving with empty hands. Alms-gifts, penance, and sacrifices are not equal to philanthropy. Of the various sins that man commits none is equal to selfishness.”

Guru Arjan said—

Philanthropic men have come who are beyond birth and death;

They give their lives, turn men to devotion, and cause them to meet God.”

Gurdas said—

“ To do good to others is a mark of a saint. I am a sacrifice to him who taketh pleasure in practising philanthropy.

The world returneth good for good, but the Guru is pleased with those who return good for evil.

It is such philanthropic persons who render their human lives profitable.

On this subject Gurdas takes a tree as an example :—

“ It is the peculiarity of a tree that it returneth good for evil. He who loppeth its branches sitteth in its shade, and it intendeth him good for evil. It giveth fruit when clods are thrown at it. When carved into a boat, it saveth him who carved it. The perverse who have not the endurance and generosity of trees, obtain no fruit, while for the worshiper countless fruit is produced. Few are the holy men who, as servants like trees, serve God's servants. The world saluteth the moon as it giveth great pleasure to the waves of the ocean. In the same way, O God, the world is his slave who pleaseth thee. The custom of the world is to return good for good, but the custom of the Guru is to return good for evil.”

The Government has often been at a difficulty in providing for young Indian students moral readers which would command implicit acceptance. The Sikh writings abound with ethical instruction. Guru Nanak said : "Let others' goods be to thee as swine to the Musalmans and kine to the Hindus." His injunctions against theft extended even to fruit whether hanging from trees or fallen on the ground. He said : "The man who neither toucheth what is standing nor eateth what has fallen shall go to Paradise."

Guru Arjan wrote—

Renounce slander and envy of others ;
Renounce the sins of lust and wrath ;
Renounce works of pride and covetousness.

Gurdas has the following :—

"Paying attention to omens, the nine grihs, the twelve signs of the zodiac, incantations, magic, divination by lines and by the voice is all vanity. It is vain to draw conclusions from the cries of donkeys, dogs, cats, kites, malális, and jackals. Omens drawn from meeting a widow, a man with a bare head, from water, fire, sneezing, hiccups, lunar and week days, unlucky moments, and conjunctions of planets are all superstition. The holy who reject such superstitions obtain happiness and salvation. People worship departed heroes, ancestors, satis, deceased co-wives, tanks, and pits, but all this is of no avail.

"Devotion, penance, hom, feasts, fasting, austerities, pilgrimages, alms-gifts, the service of gods and goddesses, are all inferior to truth, and so are hundreds of thousands of devices. Acting truly is labelled above them all.

"Falsehood is as the bitter poisonous akk ; truth is as the sweet mango. Truth is a king who sleepeth in peace, falsehood is a thief who wandereth without a home. The king awaketh, seizeth the thief, and punisheth him in his court.

"Truth is beautiful like a turban on the head. Falsehood is a polluted clout. Truth is a powerful lion, falsehood a weak lamb. Deal in truth and thou shalt gain. Why deal in falsehood which causeth loss? Truth is a current coin, falsehood is counterfeit uncurrent copper. Hundreds of thousands of stars on a dark night afford some light, but, when the one sun riseth, they all disappear. In the same way falsehood disappeareth before truth. Truth and falsehood stand to one another in the relation of a stone to an earthen vessel. If a stone be thrown at an earthen vessel, the latter will break. If the earthen vessel be thrown at a stone, the former will break. In either case it is the earthen vessel that suffereth.

"Falsehood is an offensive weapon, truth a defensive armour. Falsehood is an enemy who ever looketh for his opportunity of attack, truth is a real friend who assisteth. Truth is a hero, falsehood amasseth what is false. Truth is immovable and on safe ground ; falsehood standeth and trembleth on an insecure basis. Truth seizeth falsehood and knocketh it down. The whole world may

see this. Falsehood which is deceitful ever aileth. Truth is ever safe and sound. Truth is ever seen to be true and falsehood false."

The Sikh religion regulates the private lives of its votaries. They are taught to gather the bliss of early hours in communion with their Creator. Gurdas says—

"The Sikhs rising in the ambrosial hour of morning enter a river and bathe. Collecting their thoughts and gently meditating on the unfathomable One, they repeat the Guru's Japji. They then go into the company of saints, and sit with them. They become absorbed in remembering and loving the Word, and sing and hear the Guru's hymns. They pass their time in the love and service and fear of God. They serve the Guru and observe his anniversaries. They sing the Sodar in company and heartily associate with one another. Having read the Kiratan Sohila and made supplication at night, they distribute sacred food. Thus do the holy Sikhs gladly taste the fruit of happiness."

"The Sikhs eat little food and drink little water. They speak little and boast not. They sleep little and only in the night, nor are they entangled in worldly love. When they enter a beautiful house they covet it not."

On the subject of slander Gurdas writes—

"When the Sikhs hear slander of others, they should say, 'There is none worse than ourselves'. A Sikh ought to be ashamed to hear slander of another."

Guru Teg Bahadur in speaking of the Turkish Emperors of India said:—

We will gradually destroy the Turks who are ever engaged in very evil deeds and forming still darker designs. They must, it is true, at one time have performed greatly meritorious deeds and lived religiously to have obtained empire and dignity now. The king who acteth according to his religion, who practiseth justice, who is not greedy, who protecteth and sheweth mercy to his subjects, who dispelleth their sorrows and conferreth happiness on them instead, who receiveth only reasonable revenue, who suppresseth thieves and robbers, who removeth the many similar obstacles to good government, and who ever acteth honestly, shall secure sovereignty for his descendants.

"But those who, though they may have obtained empire by virtuous conduct in previous births, now perform evil deeds, who devote themselves mainly to sexual pleasures, and neither listen to nor make themselves acquainted with the sufferings of their subjects, who seize wealth by every means in their power, and who feel not compassion for the poor, shall find their empire and dignity daily decrease. The former rulers of India were generally just, and allowed the Hindus as well as the Musalmans the free exercise of their religion. But now Aurangzeb hath formed very evil designs

and seeketh to destroy the Hindu religion. In the wantonness of his pride he practiseth violence and oppression. His suffering subjects fear for their lives. Wherefore it is now abundantly manifest that his empire and dignity cannot abide, but shall gradually perish, and here shall none of his progeny remain even to beat a drum."

On the justice and impartiality of the Sikhs the following may be given—

Guru Gobind Singh was informed that a man called Kanaiya used with absolute impartiality to draw water both for his Sikhs and the enemy. The Guru asked him if it was so, and he replied in the affirmative. He quoted the Guru's own instruction that one should look on all men with an equal eye. The Guru mused on his reply, and dismissed him with the compliment that he was a holy man.

There are several texts in the writings of the Sikh Gurus forbidding pilgrimages:—

Guru Nanak wrote in the Asa ki Wār—

The more men wander to places of pilgrimage the more they croak ;

They adopt various costumes and torture their persons.

The Wadhans measure has the following:—

Why should he bathe whose body is corrupted by falsehood ?

It is only the ablutions of him who practiseth truth that are acceptable.

The Dhanāsari measure contains the following:—

They who worship stones, visit places of pilgrimage, dwell in forests,

And renounce their worldly occupations, wander and waver.

The True Name is as alms-giving and worship at the sixty-eight places of pilgrimage—

Men of evil minds and thievish bodies go to bathe at places of pilgrimage :

Their bodily filth is removed, but their mental filth only increaseth the more.

Guru Nanak's "Twelve Months" written in the Tukhāri measure contains the following:—

The Ganges, the Jamna, the meeting of the three rivers near Allahabad, the seven oceans,

Alms, charity, and worship are all contained in God's name ;
I recognise Him as one in every age.

The Guru thus expressed himself in the Bhairav measure—

Even though man take up the beggar's staff and pot, and adopt the hair-tuft, the sacrificial thread, and the dhoti of the Hindus, go to places of pilgrimage and wander far and wide,

Yet shall he not find comfort without the name of God; he who repeateth it shall be saved.

Guru Amardas wrote in the Sorath ki Wár—

Ritualists have grown weary of adopting religious garbs and bathing at the sixty-eight places of pilgrimage;

They know not God who dwelleth in their hearts, and through pride they stray in superstition.

And in the Maru Solhe we read—

That body is unclean to which the filth of pride attacheth.

Were it washed a hundred times, its filth would not be removed;

But when washed by the word it is cleansed, and not a speck of impurity remaineth.

Guru Arjan in the Asa measure writes—

When I go to a place of pilgrimage, I hear nothing but boasting;

And if you ask my opinion of the Pandits, they are wrapped in mammon.

In the Dhanásari measure Guru Arjan writes :—

Those who bathe at places of pilgrimage only attach to themselves the filth of pride; the God of their hearts they obey not at all,

When shall I obtain the society of the saints where is ever divine happiness, where the eye-salve of divine knowledge is applied, and my soul can lave away its impurities?

The sixty-eight places of pilgrimage are where the saints put their feet.

Some bathe at Hindu places of pilgrimage, others go to Makka of the Musalmans.

Saith Nanak, they who recognise the behest of the Lord God,

Know His secret (that He is everywhere and not specially at Hindu or Muhammadan places of pilgrimage).

Guru Teg Bahadur wrote in the Biláwal measure—

What availeth it to go to a place of pilgrimage and fast, if man take not refuge in God?

Without loving God and repeating His Name even Kings are of no account—

What availeth it to sit closing both eyes and meditating like a crane?

This world is lost, and the next world is lost for those who go about bathing in the seven seas.

They pass their lives dwelling in the midst of sin.

In the tenth Guru's Granth Sahib we find the following :—

The frogs and the fishes ever bathe at places of pilgrimage;

The cat, the wolf, the crane meditate; what know they of religion?

As thou endurest pain to deceive men, do the same for God's sake.

So shalt thou know great divine knowledge and quaff the supreme nectar.

Kabir in the Rág Gauri writes—

There are many places of pilgrimage to bathe at, O foolish man, and there are many idols to worship;

Saith Kabir, thou shalt not be saved by them, O foolish man, thou shalt only be saved by serving God.

In the Rág Sorath Kabir expresses himself thus—

What is the good of bathing the body

If within the heart there be uncleanness?

Even if the gourd be bathed at the sixty-eight places of pilgrimage,

Its bitterness will not depart.

Námdev in the Ramkali measure wrote the following:—

Wert thou to perform the penance of standing on thy head at Banáras, die at a place of pilgrimage, suffer heat, try to render thy body immortal;

Wert thou to offer the horse-sacrifice, make gifts of thine own weight in gold, all this would not be equal to God's name.

Wert thou to go to the Ganges and the Godávari, and bathe at Kidárnath at every Kumbh mela; wert thou to make offerings of a thousand cows at the Gomti;

Wert thou to make millions of pilgrimages and melt thy body in the snows, all would not be equal to God's name.

Trilochan writes in the *Gujari measure*—

Why lip-devotion? Why penance? Why churn water?

Remember Him who, free from worldly cares, created the eighty-four lakhs of creatures.

Why take up the faqir's water-pot and garb? Why wander to the sixty-eight places of pilgrimage?

Saith Trilochan, hear, O mortal, why lay a threshing-floor without corn?

Four Kumbh Melas have occurred during my residence in India, and on every occasion there was an outbreak of cholera, which at least in one instance spread to distant countries, and now there is plague in the land which may be easily disseminated in large gatherings. Swami Dayanand Saraswati and his followers of the Arya Samaj are totally against such pilgrimages. The Editor of the "*Akhbar-i-am*" and I believe other editors also wrote this year against them. If the heads of the Hindu religion could be induced, in the interests of common humanity, to raise their voices against such dangerous pilgrimages, and if the Gurus' injunctions could be impressed on the Sikhs, it may in time be possible for men to dispense with such sanctity as they can obtain from drinking polluted matter, and bathing in water charged with the microbes of cholera and bubonic plague.

This great dependency of the British crown contains a population who profess many religions. It would be a great mistake to put them all on the same footing. Some make for loyalty and others for what I will call independence. Some religions appear to require State support, while some have sufficient vitality to dispense with it. The Jewish religion has survived for many centuries without a temporal head and in the face of endless persecutions. Islam has spread in many lands, and does not solicit or require much support from temporal power. Muhammadans only claim the free exercise of their religion, and this is generously allowed them in this country. Many members of other religions, believing that they are direct emanations from heaven, may not suppose that they require State countenance or support, but the student of comparative theology may be allowed to entertain a different opinion.

Our petty systems have their day;

They have their day and cease to be.

To enumerate but a few instances. When Constantine the Roman Emperor of the West, after his conversion to Christianity, withdrew his support from the ancient religion of his country it rapidly declined. Then vanished, in the words of Coleridge,

The intelligible forms of ancient poets,

The fair humanities of the old religion,

Its power, its beauty, and its majesty.

Buddhism once flourished in this country in which we are now residing, but the successors of the renowned Asoka, who were not so spiritual or enlightened as he, allowed their religion to be completely banished from Indian soil, like an exile to find in foreign lands the repose and acceptance it had vainly sought in its own country. The great Emperor Akbar, by an eclectic process, evolved what he considered a rational religion from Islam, Hinduism, and Zoroastrianism, but it perished when it received no support but rather opposition from his son Jahangir.

Akbar's historian Abulfazl very clearly saw the advantage to a religion of State support. He says in his "Ain-i-Akbari," "Men of deep insight are of opinion that even spiritual progress among a people would be impossible, unless emanating from the king, in whom the light of God dwells."

It cannot be said that the Sikh religion was in a very pure state in the time of Maharaja Ranjit Singh, but had subsequently the fortunes of war been different on the banks of the Satluj, it is probable that some enlightened successor of his might have done for Sikhism what Constantine did for Christianity.

The members of several religions in the countries under the Indian Government have at different times solicited State countenance or support. The authorities may rest assured that such solicitations are not based on disloyalty—rather are they based on a simple belief in British impartiality—but, when they are refused, I am not quite sure that loyalty is fostered thereby. I do not know if the reply, that we are pledged to religious neutrality, is always satisfactory or that its deep import is understood by the people. In my humble opinion, it is also a mistake to suppose that, if we assist one religion, we shall be called upon to assist others. I, a Christian and foreigner, have been requested by representative Sikh societies to resign the Civil Service and translate their sacred books into English. No Muhammadan would ask a Christian to translate the Quran, or accept his version of it if he did. Nor would the Brahmans ask Europeans for assistance in rendering the Veds and Shastars into English, or even admit their right to peruse them. That far-seeing statesman, Sir John Malcolm, wrote:—"Perhaps the greatest of all dangers will occur when our subjects, taught by us, shall have cast off those moral restraints and maxims with which their religions abound, and yet not adopt that sincerity of faith in the divine precepts which would fill and elevate their minds."

Sikhism mainly differs from Christianity in that it inculcates the transmigration of the soul, and an ampler belief in destiny than is perhaps compatible with great success in civil life. It however affords a means of extrication from the toils of fate. Destiny written on the forehead is compared to the reversed letters of a seal. When men make obeisance to a spiritual guide, the letters assume their ordinary appearance, and man is regenerated and put on the road to emancipation. The belief in destiny however has made the Sikhs some of the finest and most daring soldiers of the East. No change of their religion could make them braver or more loyal.

In the course of this lecture we have seen that Sikhism prohibits idolatry, hypocrisy, caste exclusiveness, the concrementation of widows, the immurement of women, the use of wine and other intoxicants, tobacco-smoking, infanticide, slander, pilgrimages to the sacred rivers and tanks of the Hindus; and it inculcates loyalty, gratitude for all favors received, philanthropy, justice, impartiality, truth, honesty, and all the moral and domestic virtues known to the holiest Christians. It would be difficult to point to a more comprehensive ethical code.

Thus far we have traced Sikhism as it was taught by the Gurus, but now the reverse of the picture has to be presented. I must admit with regret, that the practice of the majority of the Sikhs is quite different from the precepts of their religion. A knowledge of the language in which their sacred books are written is not now possessed by more than perhaps twenty-five men in the world, and perhaps even the number twenty-five is an exaggeration. There are no readable or trustworthy commentaries or translations in Indian languages of these books, but an English translation would give the rising generation of Sikhs a knowledge of their religion, and at the same time assist them in acquiring a knowledge of our language.

Professor Weber in his history of Indian literature gives it as his opinion that Buddhism lost its hold on India because its code of ethics was deemed too strict for the people. Sikhism is in danger of losing its hold for the same reason. Gurdas, whose name I have so often mentioned, says, "The way of Sikhism is narrow, it is sharper than the edge of a sword and finer than a hair;" and unless support comes to it from some quarter its future is in serious jeopardy.

In recent years one of the so-called Sikh States has openly renounced its allegiance to Sikhism, and two other important States in the Panjab are falling under the influence of the followers of Joseph Balsamo, known to the readers of Carlyle's Essays as Count Cagliostro. There have been besides serious defections of large bodies of residents of British districts from the Sikh faith. The Sikhs who now present themselves for enlistment in our army, generally appear with shaven hair, and in other ways show their ignorance or neglect of the precepts of their religion. In one of the last addresses of the Khalsa Diwan to a Viceroy I read—"The Khalsa Diwan has seen with great regret the continual decrease of the Sikh population, and is now considering the steps to be taken to check the evil social customs which undoubtedly have had much to do with this result."

I have seen it stated that the last census shows an increase of the Sikh population. The increase is only in the figures, not in the population. At former enumerations village Sikhs in their ignorance generally recorded themselves as Hindus, though in the column for sect they often described themselves as Sikhs, but they were frequently totalled up as Hindus, as indeed they virtually were. With the experience gained by time a sharp line of demarcation has now been drawn between Sikhs and Hindus, and the result is larger

figures, but in reality there has been a great decrease of the Sikh population. Writers who have asserted the contrary, have had their time too much occupied with other duties to study the facts of the case, or read periodical Gurumukhi literature.

Even if, looking to the present state of the Sikh religion, we are here to-day only engaged in a matter of academic interest, let us hope that the teaching of the great and inspired Sikh Gurus and the literature which has gathered round it, will not be allowed to pass into oblivion, and that the spirit which nerved the arms of the Sikhs to gallant deeds under their sixth and tenth Gurus and under British commanders in many a well-fought field, may still abide as a bulwark of British power in this land.

How the Sikhs became a militant race, their bravery, and their devotion to the British must be reserved for another lecture.

His Honour the Lieutenant-Governor said after the lecture.

Ladies and gentlemen,—We have listened to a very interesting lecture, but there is one point on which I should like to make a few remarks; that is with reference to what Mr. Macauliffe has said about the deterioration of the character of the Sikhs and decrease in their numbers.

I quite agree that if that is really the case, it is to be deplored, for the Sikh Jat, taking him all round, is the best agriculturist and the finest type of manliness in the Punjab, and is moreover not the least valuable recruiting material of the Indian Army; but I think Mr. Macauliffe has taken an unnecessarily pessimistic view of the matter. I admit that, as he has said, some of the present representatives of the leading Sikh families are either very lax Sikhs or have even practically renounced Sikhism altogether; and personally, I regret that this is so; but while the Sikh community have as their leaders such staunch Sikhs as the venerable Chief of Nabha, whose son I am glad to see here, Bedi Khem Singh of Rawalpindi; Sirdar Badan Singh of Malodh in the Ludhiana district, and other men of this type, I don't think there is much cause for anxiety in this respect. Then as regards the masses; my impression is that among the Jat peasantry of the Manjha and Malwa, that is the country to the west and east of the Sutlej, which is the chief centre of Sikhism, Sikhism at the present time is not waning in popularity.

The figures of the census of 1901 show that during the decade 1891-1901 the Sikh population of the Punjab has increased in numbers. Mr. Macauliffe has impugned the accuracy of these figures, but I doubt if he has sufficient reason for doing so. During my long service in the Punjab I have been intimately associated for a considerable portion of it with the Sikh Districts, and my own impression is that at the present time Sikhism is more active and attracts more followers than it did 20 or 25 years ago.

After the British conquest of the Punjab, 54 years ago, the Sikhs after a severe struggle having been defeated, like the manly race that

they are accepted the defeat, hung up their swords and took to the plough. Then came the crisis of the Mutiny of 1857. We know how Sir John Lawrence and his officers called upon the people of the Punjab and especially on the Sikhs to come to our assistance at Delhi and in Hindustan, how nobly they responded to the call and what splendid services they rendered. Then peaceful times returned, and as there was not the same demand for military service, naturally Sikhism declined, and during the 20 to 25 years that followed the Mutiny, it was, I believe, at its lowest ebb since the conquest of the Punjab.

During the last 20 years, however, I think that owing chiefly to the formation of Sikh class regiments, and the opportunities which have been given to the Sikhs for military service outside India there has been a considerable revival of Sikhism; that at any rate is my impression.

Mr. Macauliffe has said that a large portion of those who are recruited into the Sikh regiments are not really Sikhs.

I understand that in the Sikh regiments, at all events those serving in the Punjab, every recruit is obliged to take the "pāhal" as a condition of enlistment, if he has not already taken it; and if this is so—and the rule I think an excellent one—and if it is strictly observed the Sikh regiments ought to serve as important agencies for the encouragement and promotion of Sikhism. Mr. Macauliffe has touched on a delicate question when he referred to State assistance. Well, it is of course impossible for our Government to show any special favour to any particular class or creed, but there are some means of affording encouragement to the Sikhs as to others for instance by giving assignments of land revenue for the support of their deserving religious institutions, as has been done for the support of Hindu and Muhammadan Institutions, and it is only a few years ago that a liberal assignment was given to the Akal Bunga at Amritsar.

Then there is the Khalsa College at Amritsar, an institution which, if properly managed, should be of very great assistance to Sikhism.

I am sorry to say that this College has not progressed so far as I should have wished, but that is due to the jealousies of rival factions of the Sikhs, which have interfered with its proper development. I visited it the other day and I hope to do something which will improve matters in this respect. If only the Raja of Nabha and other leading Sikhs will insist on these rival factions stopping their quarrels and if only they will put the College on a proper footing, I see no reason why the Khalsa College should not do as much for the Sikhs of the Punjab as the Muhammadan College at Aligarh is doing for the Muhammadans of Upper India.

And I can say, so far as the Punjab Government is concerned, that we are prepared to give pecuniary and other assistance to the Khalsa College as soon as its affairs are brought into a satisfactory

condition. I hope also that Mr. Macauliffe's valuable translations will induce the educated classes of the Sikhs to study their sacred writings and act up to the moral forces as contained in them.

I think that for some such means as these, a good deal can be done towards the encouragement of Sikhism, but especially by giving all possible opportunities to the Sikhs for military service ; for there is no doubt the Sikh is at his best as a soldier ; he makes an excellent agriculturist, though sometimes by way of recreation he will hit his neighbour on the head with a thick stick over a land or water dispute, and sometimes he has even been known to take to highway robbery and burglary as a pastime. But as a soldier and under military discipline, he is hard to beat, and the retired Sikh officer and soldier is generally a very valuable member of the village community and renders very efficient assistance to the district officer.

I must apologize for my somewhat discursive remarks. I was induced to make them by hearing Mr. Macauliffe's despondent views as to the present condition of the Sikhs. But although I do not share these views, I quite agree with Mr. Macauliffe that our Government should take advantage of every legitimate opportunity offered to promote the cause of Sikhism.

At the conclusion of his remarks the President asked if any gentleman present would like to make any remarks. There being no response, His Honour wound up the meeting by again thanking the lecturer for his interesting and instructive lecture.

HOW THE SIKHS BECAME A MILITANT RACE.

SECOND LECTURE BY M. MACAULIFFE, ESQ., I.C.S., RETIRED
M.R.A.S., 6TH JULY 1903.

His Excellency General the Right Hon'ble H. H., Viscount Kitchener of Khartoum, G.C.B., O.M., G.C.M.G., in the Chair.

The title of this lecture was suggested to me four years ago by the late Sir William Hunter at the Congress of Orientalists in Rome. He was desirous of incorporating a chapter on the subject in his projected History of India, and he invited me to write it for him. In mentioning the name of Sir William Hunter I may be allowed, in passing, to pay my humble tribute to the zeal and devotion with which he devoted the splendour of his literary gifts to the illustration and magnification of British rule in India, to his unwearied industry, to the kindness of his heart, and the inborn and unalterable philanthropy of his character. As he himself possessed the *mens sana in corpore sano*, he took a healthy view of life notwithstanding its multitudinous ills, and by some subtle influence communicated his own inward happiness and satisfaction to all who were fortunate enough to come within his influence. We may be permitted to mourn the fate of such a man, removed from among us while in the plenitude and vigor of his intellectual faculties, and before he had fully completed the colossal literary labor projected in early years :

Sunt lachrymæ rerum et mentem mortalia tangunt.

It is because there is so little known even to professional scholars of the Sikh religion, because the little that is known is too often tainted with error, because the sacred books of the Sikhs contain instruction of such a high ethical literary standard, that I have devoted a large portion of my life to their study and elucidation.

There is a pretty fable which represents Minerva, the goddess of wisdom, springing in full armour from the brain of Jupiter. Students of theology know that it is not in that summary manner new religions are produced. Ideas of reform and dissatisfaction with existing systems are always in the air, it may be for centuries, until some one man bolder than others stands forth to give them free expression. In the same way, notwithstanding the sublime genius of Baba Nanak, it would be idle to pretend that there were not men before him who directed their thoughts to the reformation of Indian religions, and this the Granth Sahib itself amply attests, for besides the holy writings of the Gurus it contains hymns of several reformers who preceded them.

For the information of those who did not attend my lecture on the Sikh religion, I may briefly repeat a few facts. In the Middle Ages there was a cyclic wave of reformation which swept with tolerable impartiality over the low-lying countries between the western shore of England and the Bay of Bengal. In India several devout men

felt that the Brahmans were not always sincere in their worship, and that the rigidity of caste rules was inconsistent with social progress. Nor did the expounders of the Muhammadan law and religion always secure the confidence of the people. Only fourteen years before the birth of Martin Luther, whose life and teachings have had such momentous consequences for the world, Guru Nanak taught that there was but one God the Creator, who was unborn and self-existent, that the wearing of religious garbs, and praying and practising penance to be seen of men only produced hypocrisy, and that those who went on pilgrimages to sacred streams, though they might cleanse their bodies, only increased their mental impurity. He pointed out that God before all temples prefers the upright heart and pure, and must be worshiped in spirit and in truth, and not with the idolatrous accessories of incense, sandal-wood, and burnt offerings. He abrogated caste distinctions, and taught, in opposition to ancient writings, that every man had the eternal right of searching for divine knowledge and worshipping his Creator.

Shaikh Farid, whose writings are incorporated in the Granth Sahib of the Sikhs, said :

“ If men beat thee with their fists beat them not in return ;
Nay, kiss their feet and go home.

Farid, if thou long for the Lord of all, become the grass on the pathway for men to tread on.

When one breaketh thee and another trampleth on thee, thou shalt enter the court of the Lord.”

Side by side with such injunctions, which represent Guru Nanak's spirit of humility, were commandments to “set no value on the things of this world, but treasure up the viaticum of God's name.” In Guru Nanak's time, though religion was said to have lost three of its legs like a maimed bullock, what are called by Europeans caste rules, that is, social and culinary rules sanctioned by religion, were very strictly observed. Professedly religious men pretended to find impurity in everything. The Guru taught in opposition to such belief that it was the man who turned away from God whose mouth was impure. Such injunctions, corresponding to those of another Great Master, are not new to the majority of this audience, but they were new to the audiences whom Guru Nanak addressed.

Guru Angad, the second Guru of the Sikhs, was the very essence of humility and obedience. Notwithstanding this, however, he inculcated and upheld military devotion and self-sacrifice. A soldier named Malu Shahi, orderly of a Mughal officer, sought for spiritual advice which would be profitable to him here and hereafter. The Guru counselled him, if ever the necessity of battle arose, to fight for his master, and not consider whether his side was in a numerical minority or not.

After various tests, Guru Nanak in supersession of his own sons appointed Guru Angad his successor. Guru Angad also postponed the claims of his own sons to the guruship in favour of Amardas,

who had attended him as a faithful servant. Datu, one of Guru Angad's sons, became jealous of Guru Amardas, and had the audacity to kick him off his throne. The Guru meekly replied: "O, great king, pardon me; thou must have hurt thy foot." Guru Amardas always preached lessons of forgiveness and endurance, but his enemies only returned evil for the good he intended them. Their slander was to him like a rain-shower which, though it might injure a mud wall, would only cleanse a mountain side. It was a maxim of the Sikhs of his time: "If any one treat you ill, bear it. If you bear it three times, God himself will fight for you and humble your enemies."

Guru Ramdas, the fourth guru, originally called Jetha, was attracted to the third guru by his reputation for sanctity. Jetha became Guru Amardas's servant. He helped in the public kitchen, shampooed his master, drew water, brought firewood from the forest, and, when not so employed, assisted in the excavation of a *bawali*, or well with descending steps, which Guru Amardas was constructing at Goindwal. Jetha never thought of his own ease and never felt weary. He was of such a temper that, even if any one spoke harshly to him, he would endure it and never retaliate. He became known as what he really was, namely, Ram Das, which, being interpreted, means God's slave. Guru Amardas seeing Ramdas's piety, devotion, and humility gave him his daughter in marriage, and, following the example of his predecessors, appointed him his successor in supersession of his own sons.

Henceforth the gurus did not select their successors from men unconnected with them by ties of consanguinity, but at the same time the law of primogeniture was not generally adopted. In the East where spiritual as well as temporal rulers are or have been despotic, and where so much depends on their tempers and capacities, the system of primogeniture has not always commended itself.

Guru Ramdas, finding his eldest son, Prithi Chand, worldly and disobedient, and his second unfitted by his too retiring disposition for the duties of guru, appointed his third son, Arjan, to succeed him. When Prithi Chand represented that it was he himself who ought to have received the turban bound on Guru Arjan's head in token of succession to his father, Guru Arjan meekly handed it to him. Prithi Chand then began to take the offerings of the Sikhs, and left his brother, the duly appointed Guru, with only the most attenuated pittance for his maintenance. There was no check put on Prithi Chand's rapacity until Guru Arjan's Sikhs addressed him and prayed him to assert himself, otherwise the seed of the True Name, which Guru Nanak had planted to be advantageous in this life, should never become a tree yielding to mortals the pleasures of a cooling shade and the sweet fruit of salvation.

Even when arrangements were made for Prithi Chand's suitable maintenance, he continued to annoy the duly constituted guru and make complaints against him to the Emperor Akbar. On that occasion Guru Arjan composed the following:—

I have forgotten all jealousy of others since I have obtained the companionship of saints,

No one is an enemy or stranger to me ; I am on good terms with every one.

What God did I accept as good ; this wisdom I have obtained from the holy.

The one God is contained in everything ; as Nanak beholdeth God's work, he is happy.

When Guru Arjan performed for the compositions of his predecessors the same part that Pisistratus did for the poems of Homer, and compiled the Granth, called the Granth Sahib out of respect by the Sikhs—because it is believed by them to be an embodiment of the gurus—an opportunity was afforded to the Guru's enemies to make further charges against him. He was accused like Socrates of old of deposing the deities of his country and substituting for them a new Divinity. He was duly acquitted of this charge by the wise and tolerant Emperor Akbar, the marvel of his age and country.

Akbar's son, Salím, afterwards known as Jahángir, was not beloved by his father for his many excesses and his usurpation of authority within the Empire. Jahangir felt the virtues and excellent qualities of his son, Khusrau, a standing reproach and accordingly hated him. Moreover, Akbar had destined Khusrau for the throne to the supersession of his father, Jahangir. On the death of Akbar, Jahangir desired to seize Khusrau, but Khusrau escaped from Agra pursued by the Imperial troops. He directed his steps towards Afghanistan, and on the way visited Guru Arjan at Tarn Taran. He implored the Guru for pecuniary assistance. The Guru said he had money for the poor but not for princes. Khusrau replied with great humility that he himself was now very poor, needy, and unfriended, and had not even a kauri to defray his travelling expenses.

Guru Arjan, seeing Prince Khusrau's evil plight and humility, took compassion on him. He, moreover, felt friendly to the Prince who had been gracious enough to visit him a few times previously, and he owed a debt of gratitude to the Prince's grandfather, the Emperor Akbar, so he gave him five thousand rupees to assist him in escaping from his father, now the ruling monarch. The subsidy however proved insufficient to save Khusrau.

The Guru's assistance to Khusrau was enough to fan the flame of his father, the Emperor Jahangir's hostility. The Sikh accounts of Guru Arjan's end are somewhat different from those of the Muhammadan historians. The Emperor Jahangir in his autobiography states: "The idea struck me several times to make the Guru a convert to Islam, till at last Khusrau crossed the Bias and proceeded in the direction of the Guru. The Guru had an interview with the Prince, and supplied him with much information. He applied to the Prince's forehead the saffron mark called *kashka*—tilak in Sanskrit and Hindi. This was done by way of good omen. No sooner did I hear of this then, convinced as I was of the absurdity of

the notion, I ordered the Guru to be brought into my presence. All his private property was confiscated to the state, and he himself placed in rigorous confinement."

The statement of the author of the "Dabistan-i-Mazāhib" on the subject of Guru Arjan is to the same effect. Guru Arjan had blessed the Emperor's son, Khusrau, who had risen in rebellion against his father, and, when Khusrau was arrested, the Emperor ordered Guru Arjan also to be punished and a large fine imposed on him. This the Guru was unable to pay, and he was consequently imprisoned in what the historian calls the sandy country of Lahore, where he died from the effects of the heat and the tortures inflicted on him by the officers appointed to realise the fine imposed.

Guru Arjan had clearly seen that it was impossible to preserve his sect without the force of arms. He gave the following instructions to a Sikh soldier who had sought his spiritual advice: "He who practiseth martial exercises shall become fearless in the battle-field. He who resolveth to conquer or die in arms, and who when dying claspeth the True Name to his heart, shall efface the sins of many births and obtain deliverance. Without remembering God none shall obtain a place in the heroes' heaven. He who fearlessly challengeth the foe, and falleth amid the clash of arms, shall feel the ecstasy the jogis long for, and arrive at a permanent abode of bliss. Many celestial damsels shall come and serve him where there are gilded chambers and a palace of gold. They will sing for him songs of gladness. Other pleasures too shall await him as he abideth in the realm of the brave. The greatest merit of a soldier is not to show his back to the enemy. A hero obtaineth for himself bliss both here and hereafter by the might of his arms. If he conquer, he obtaineth the sovereignty of the earth, while, if he die, celestial happiness is his portion. Fight for him whose salt thou hast eaten. Give thy life for thy sovereign, and great shall be thy fame in both worlds."

One of Guru Arjan's last injunctions to his son, Guru Har Gobind, was to sit fully armed on his throne and maintain an army to the best of his ability. This was the turning point in the history of the Sikhs. The Sikh historian may now say in the well-known words of the Mantuan bard:

*Ille ego qui quondam gracili modulatus avenâ
Carmen*

—nunc horrentia Martis

Arma virosque cano;

or, as translated by Spencer,—

Lo, I the man whose muse whilom did mask,
As time her taught, in lowly shepherd's weeds,
Am now enforced—a far unfitter task—
For trumpets stern to change mine oaten reeds.

When Har Gobind was installed as Guru, the aged Sikh who performed the ceremony, presented him with a faqir's hat and a cord of camel-hair, and charged him to wear and preserve them as the founder

of his religion had done. Guru Har Gobind promptly ordered that the articles should be relegated to his treasury, the museum of the period. They were not suited for the altered condition of the Sikhs. He said, "My cord necklace shall be my sword-belt, and my faqir's hat a turban with a royal aigrette." He then sent for his bow, quiver, arrows, shield and sword, and arrayed himself in martial style, so that, as the Sikh chronicler states, his splendour shone like the sun. His mother remonstrated with him for departing from the customs of his predecessors: "My son, we have no treasure, no state revenue, no landed property, no money. If thou walk in the way of thy father and grandfather, thou shalt be happy." The Guru replied with the following lines of his father Guru Arjan.

My Lord is my only guardian ;

He is the Searcher of all hearts.

Have no anxiety whatever for me ;

Everything shall be according to the will of God.

When Bhai Budha, an ancient friend of the Gurus remonstrated, the Guru replied:—"It is through thine intercession I obtained birth: and it is according to thy words that I wear two swords as emblems of spiritual and temporal authority. In the guru's house the caldron to supply my guests and the scimitar to restrain mine enemies shall ever be combined."

Several warriors and wrestlers hearing of Guru Har Gobind's fame came to him for service. He enrolled as his body-guard fifty-two heroes who burned for the fray. This formed the nucleus of his future army. Five hundred youths then came to him for enlistment from the Mánjha (the country between the Bias and the Ravi), the Doába (the country between the Bias and the Satluj), and the Malwa countries. These men told him that they had no offerings to make him except their lives; for pay they only required instruction in his religion; and they professed themselves ready to die in his service. The Guru gave them each a horse and five weapons of war, and gladly enlisted them in his army. He made Bidhi Chand, Bhai Pirána, Bhai Jetha, Bhai Páira, and Bhai Langáha each captain of a troop of one hundred horse.

After this several men out of employ and without a taste for manual labour flocked to the Guru's standard. People began to wonder how he could continue to maintain such an army. The Guru quoted from Guru Arjan—

God putteth their food before the insects which he created in rocks and stones ;

He provideth every one with his daily food ; why, O man, feelest thou anxiety ?

The Guru by quoting such passages and by his own hopefulness and force of character removed people's fears. In a short time,

besides men who required regular pay, hordes gathered round the Guru, who were satisfied with two meals a day and a suit of clothes every six months.

Guru Har Gobind was the first Guru who systematically turned his attention to the chase. He rose before day, bathed, dressed himself in full armour, and then went to the Har Mandar—God's temple—to worship. There he heard the Japji and the Asa ki War recited. He then preached to his Sikhs. After his sermon the Anand of Guru Amardas and a concluding prayer were read. Upon this all repaired to breakfast which was distributed to the Guru's troops and followers as they sat in rows for the purpose. The Guru was in the habit of afterwards taking rest for about an hour, and he then prepared himself for the chase. Accompanied by an army of forest-beaters, hounds, tame leopards, and hawks of every variety, he used to sally forth and traverse long distances.

The regal state the Guru adopted and the army he maintained were duly reported to the Emperor Jahangir. Moreover, Guru Har Gobind's father, Guru Arjan, had not fully paid the fine imposed on him. The Emperor Jahangir accordingly imprisoned Guru Har Gobind in the fortress of Gwalior, and detained him there for some time with a view to the realisation of the fine.

When the Guru was released from prison he returned to Amritsar. After some time Jahangir died, and was succeeded by his son, Shah Jahan. When the Guru heard of Shah Jahan's accession he, knowing what was in store for him, addressed Strife, the Greek Ate, as an evil agency: "Go where thy companions Falsehood, Worldly Love, and Pride have their dwelling, and be happy with them. Thou shalt have enough blood there to fill the skull thou carriest."

A Sikh was bringing a horse of rare strain from Kabul as an offering to the Guru. The horse was seized while crossing the Indus at Atak by an officious officer who had quickly arrived at the conclusion that the animal would be a suitable present for the Emperor. The horse on reaching the Emperor's stables fell ill, and was made over to a Qazi to cure as best he might. The Qazi was unable to cure the horse, and sold him to Guru Har Gobind. During the negotiations the Qazi's daughter, Kaulan, became a convert to the Sikh religion, and followed the Guru to Amritsar.

The author of the "Dabistan-i-Mazahib," who was a contemporary of Guru Har Gobind and conversed and corresponded with him, does not state the cause of the Emperor's subsequent displeasure with the Guru. The Sikh historians state that it was a quarrel over a favorite white hawk which had been presented to the Emperor. One day while the Emperor was hawking, the bird flew towards the Guru's camp. His Sikhs seized the bird and refused to give it up, partly because it had taken refuge with them, and partly because they regarded it as a just act of reprisal for the charger of which the Guru had been

deprived by the Emperor's father's subordinates at the Indus. The result of an expedition against the Guru, according to both the Sikh and Muhammadan historians, was, that he, his family, and his troops evacuated Amritsar, and made their way to the margin of the Bias. It was necessary for them to obtain a resting-place somewhere, and there they founded a city and fort known as Sri Har Gobindpur. A dispute arose regarding the occupation of the land, and this involved the Guru in further troubles. The son of the proprietor of the land which the Guru had occupied, and the son of a high Hindu official of the Emperor who had tortured Guru Arjan, and whose death it was believed the present Guru had procured, made common cause and represented their grievances to the Subadar or Governor of Jalandhar. It is said that he, without consulting the Emperor, advanced with a force of ten thousand men to do battle with the Guru. The Guru's army, by that time inured to warfare, fought valiantly for their religion and their lives, and gained a brilliant victory.

The Guru however continued to be harassed by the imperial forces. When on a visit to a holy Sikh called Jallhan, who lived not far from Amritsar, he revealed his hazardous position: "I am ever involved in some difficulty. The Turks are pursuing me and will not desist. Wherever I go they attack me, and this very day they are ready to either kill me or die themselves in the effort. Show me some way of escape." Jallhan hinted that, if the Guru could detach himself from worldly affairs, he might live in security. The Guru replied: "Since Mammon hath become attached to me, I cannot now detach myself from her, and much remaineth for me to do in the world."

Another Sikh, who knew the Guru's difficulties, invited him to Daroli. The Guru accepted his invitation for the following reason:—"The Emperor beareth me malice in his heart, and I must destroy mine enemies. The honour of my temple shall be preserved if I go to Malwa and make its forest my fort. If the Emperor send an army thither to pursue me, it shall die of thirst without my taking the trouble to destroy it."

One Bidhi Chand, who had been a notorious robber, repented of his sins, and sought spiritual consolation with Guru Arjan. Bidhi Chand fought bravely under Guru Har Gobind, and in all his battles materially assisted him in obtaining victory.

Some Sikhs who had been to Kabul to collect offerings for the Guru, passed through Lahore on their return journey. The Guru asked them to tell him what they had seen there. Their visit was at the time of the festival of the Id, when they saw the city under very favourable auspices. Among the sights were the Emperor Shah Jahan's two favorite steeds on whose beauty they expatiated. It must not be supposed that the Guru instigated his Sikhs to procure the horses for him, but at any rate Bidhi Chand, whose ancient love of foray appears to have revived, decided that two such horses as those described would be a suitable offering for the Guru, and he accordingly proceeded to obtain possession of them. The manner in which he

succeeded forms a long and stirring episode in the "Suraj Parkash," whose author infuses all his poetical enthusiasm into the narrative. The horses thus passed into the Guru's stables, though this had been by no means his intention.

This led to the despatch of another expedition by the Emperor. The Guru having heard of its approach took up his position in a forest difficult of access, provided with a single tank. The Guru's army was so disposed round the tank that, when the enemy arrived, they could not obtain access to it and should thus perish, or at least be incapacitated for warfare by thirst. A great battle was fought on the lands of Nathána in A.D. 1631, in which thousands of Turks were slain by a small body of Sikhs commanded by the Guru.

One Painda Khan, a Pathan of gigantic strength, was on the Guru's staff and received great attention from him. The Guru once made him large presents. Painda Khan's son-in-law irregularly obtained possession of them, and also of a hawk which the Guru had reserved for his own son. An altercation arose between the Guru and Painda Khan on the subject of Painda Khan's son-in-law's misappropriation. The Guru ordered Painda Khan to be removed from his court. Painda Khan then went to a Muhammadan village where he had a resolution passed that the priest of the Sikhs was a great tyrant, that his power daily increased to the public detriment, that he received countless offerings and possessed boundless wealth, and that the Emperor should be invited to send an army to reduce him to subjection and take possession of his property. Some people laughed and said: "Painda Khan was an ungrateful scoundrel, returning evil for good, and must one day inevitably receive his deserts."

Painda Khan was able to induce under promise of plunder five hundred horsemen to join him. In this he was assisted by his cousin who had by this time risen to be Subadar of Jalandhar. Painda Khan and his son-in-law with their new levy proceeded to Lahore. Notwithstanding bribery and solicitation, they for a long time failed to secure an audience of the Emperor. The manner in which Painda Khan ultimately obtained a hearing may be worth relating, as showing how justice has frequently been administered in India. Painda Khan was advised to procure a long bamboo, tie a hen to the end of it, and lift her to the Royal casement, when her clucking might perhaps awake the Emperor. Should this fail, he was to light torches at midnight and cause his five hundred men to raise a loud shout opposite the Emperor's apartments, upon which an audience might be vouchsafed him on the morrow. This expedient proved successful. Next morning the Emperor sent for the men who had disturbed his rest overnight, and demanded an explanation of their conduct.

A powerful army, the Sikhs say, of fifty thousand men, was despatched under the command of General Kale Khan against the Guru. A faithful Sikh hearing of the arrival of an enormous imperial army in Jalandhar hastened to inform the Guru. Another Sikh soon arrived

who said that the imperial army was approaching thick as locusts, and suggested to the Guru that he should take measures to protect himself and his followers, as, when it rained iron, the showers would not fall in vain. The Guru replied by a hymn of Guru Amardas—

God himself protecteth His saints ; what can a sinner do against them ?

Proud fools practise pride, and die by eating poison.

The few days they had to live are at an end ; they are cut down like a ripe field.

They shall soon be spoken of according to their acts.

The slave Nanak's Master is great ; He is the Lord of all.

In this lecture there is no room for a description of the battle. I shall merely give an account of two single-handed combats in which Guru Har Gobind was engaged. Kale Khan addressed Painda Khan who seemed to him to be playing the laggard—"Painda Khan, half the day is over and our army is perishing. Thou art the cause of this disaster ; go forward and withstand the Guru. We will support thee." Accordingly Kale Khan, Qutub Khan, and Asman Khan putting Painda Khan in front advanced against the Guru. The Guru on seeing his deadly enemy, Painda Khan, curbed his wrath and bided his opportunity. Painda Khan with his drawn sword confronted him, and thus addressed his former friend and master : "Stand, it is now my turn. I will avenge the ignominy thou hast cast on me and thus cool my burning breast. If thou desire to come to terms, do so at once, and I will take thee to the Emperor and induce him to pardon thy many offences." The Guru replied : "Painda Khan, why use haughty language ? Now that the sword is in thy hand, and that thou art ready to do or die, what time is it to talk of peace ? The man who runneth away and turneth his back to the foe, no longer hath regard for his religion. As to what thou talkest of revenge, I am here alone prepared to afford it thee. Thou mayest even strike the first blow, otherwise thou mayest regret it hereafter." Painda Khan on hearing this became enraged and brandished his sword. Inclining his body he aimed a blow at the calf of the Guru's leg. The Guru turned his horse aside to avoid it, but the sword struck his stirrup. He smiled and said : "O, Painda Khan, strike me where thou plearest, seize me, bind me that thou mayest have no cause for repentance. Fear not that I shall flee thee." Painda Khan made another stroke at the Guru which he received on his shield. Painda Khan then tried to seize the Guru's bridle, and take him and his charger to the Emperor's general. As Painda Khan was seizing the bridle, the Guru kicked him so forcibly that he staggered. He however recovered himself, and again assumed the offensive. He had sufficient insolence to provoke the war, but he could not look straight in the face the Guru whose presents he had received, whose leavings he had eaten, and whose cast-off clothes he had worn. It was the Guru's wish that Painda Khan should even now admit that he had erred, and he would then restore him to his former position.

Instead of that the ill-starred man made another blow of his falchion at the Guru. His weapon parted from the handle and fell on the ground. The Guru deeming it a point of honour not to take advantage of the misfortune of an enemy, alighted and said ; " Ingratitude and slander, both of which thou hast been guilty of, are very serious crimes, but to kill the person I have cherished is not the course I desire to adopt." Painsa Khan mockingly replied : " Come, I will take thee to the Emperor." The Guru under all the provocation drew his two-edged scimitar and struck Painsa Khan so forcibly that he fell prone on the ground. The Guru said, " Thou art a Musalman; now is the time to repeat thy creed." Painsa Khan repenting, replied, " O Guru, thy sword is my creed and my source of salvation."

The Guru on seeing Painsa Khan's dead body was filled with pity and regret. He took his shield and put it over his victim's face so as to shade it from the sun, and bursting into tears said : " Painsa Khan, I cherished thee, I reared thee, and I made thee a hero. Though men spoke ill of thee, I forgot thy failings, and evil to thee never entered my mind, but evil destiny so misled thee that thou broughtest an army against me. It is thine own acts of ingratitude and insolence that have led to thy death at my hands. It is impossible to digest offerings without serving the saints and worshiping God, otherwise they ruin the understanding, become deadly poison to the body, and lead to man's ultimate damnation. Though thou hast been ungrateful and untrue to thy salt, I pray the Almighty to grant thee a dwelling in heaven."

The Guru and Kale Khan, the Commander-in-Chief of the imperial forces, had also a single-handed combat described by the author of the *Dabistan-i-Mazáhib*. Kale Khan made several sword-cuts at the Guru, which the latter easily parried. The Guru seeing him handle his weapon unskilfully said : " Not in that way. This is the way to use the sword." Saying this the Guru put forth his strength and lopped off his adversary's head—obviously too dear a price to pay for a fencing lesson. In this the fourth and last battle of Guru Har Gobind the imperial army lost many thousand men. The Guru before his death at Patálpuri on the margin of the Satluj instructed his grandson and successor, Guru Har Rai, to retain two thousand two hundred mounted soldiers ever with him as a precautionary measure.

The Sikh writers state that when Dara Shikoh fled from his brother Aurangzeb he visited Guru Har Rai in Khadúr in the Amritsar district. The Guru offered him assistance and thus addressed him : " It is often the duty of kings to take arms and engage in battle, and either die themselves or kill enemies for the acquisition of wealth and territory. Wherefore collect an army and obtain as many allies as possible. Go to Lahore, fortify thy position, fight when necessary, and obtain victory. God assisteth those who assist themselves. Once thou inflict defeat on Aurangzeb, thou shalt have many rajas thine allies. They know not thine excellent disposition, and they will declare themselves on thy side when they are convinced that their action is safe.

I have two thousand two hundred fighting men, who are at thy service, and I will enlist more for thee if required. We will if possible destroy Aurangzeb's army. Thou hast now no resource but the arbitrament of battle. All the kings of India are subject to the Emperor who ruleth in Dilhi, and if thou recapture it not, thou shalt have no abiding place, for the master of that city shall be master of India. Therefore thou must struggle to prevent the establishment of Aurangzeb's authority. Collect troops for the battle. When the engagement begins, I will be with thee with all my Sikhs."

Dara Shikoh was of a religious and philosophic temperament and constitutionally unfitted for warfare. He consequently failed to follow the Guru's advice. He was betrayed by a Pathan of Sindh, tried for heterodoxy by Aurangzeb's Qazis, and executed.

Aurangzeb heard of Guru Har Rai's friendship for Dara Shikoh, and summoned him to his presence. The Guru instead of going himself sent his son, Ram Rai. He, in order to protect himself, thought it necessary to tamper with a line of Guru Nanak in the Asa-ki-War for which he was cursed by his father. It may be here mentioned that Ram Rai retired to Dehra Dun, where he died. His successors there have a large following, and enjoy a jagir from the British Government.

Guru Har Krishan, the eighth Guru, died when a child, otherwise he could hardly have escaped persecution at the hands of the bigoted Emperor Aurangzeb.

The Emperor Aurangzeb became nearly as unpopular with the Muhammadans as with the Hindus, the result of his inhumanity and oppression. He sent for his priests, and asked them what he was to do to regain the sympathy of the Muhammadans. His counsellors said he could only do so by converting the Hindus to Islam. It would be necessary for him to send money and other presents to Makka and Madina. His priests would take them and bring him credentials from those holy cities to show that he was an orthodox and religious Muhammadan. All this being done, he was to issue proclamations throughout the empire that the Hindus should embrace Islam, and that those who did so should receive jagirs, state service, and all the immunities granted to royal favorites. The Emperor took the advice of his priests, and all the plans suggested were adopted.

The experiment of conversion was first tried in Kashmir. There were two reasons for this. In the first place, the Kashmiri Pundits were educated, and it was thought that, if they were converted, the inhabitants of Hindustan would readily follow their example; secondly, Peshawar and Kabul, Muhammadan countries, were near, and if the Kashmiris offered any resistance to their conversion, the Muhammadans might declare a religious war and overpower and destroy them. It was also believed that the Kashmiri Brahmins might be tempted by promises of money and government appointments. The Emperor Akbar by the force of wealth and

military genius, not only subdued Muhammadan India, but also Rajputana, and caused himself to be proclaimed as a god. Why should not Aurangzeb be similarly successful ?

The process of conversion went on in Kashmir until Sher Afgan Khan the Governor became wearied with slaughter. He allowed the Kashmiri Pundits a respite of six months to consider whether they should embrace Islam or die for their religion. They repaired to Guru Teg Bahadur, the ninth Guru who sat on Guru Nanak's throne, in the hope that he would protect their honour and their lives. Guru Teg Bahadur duly pondered on their request. He recollected how Guru Nanak had granted sovereignty to the ungrateful Turks. His grant could only be revoked by the sacrifice of a life. It was necessary for Guru Teg Bahadur to offer his head for the Hindu religion. His darling boy Gobind was then playing in the hall, and on seeing his father sad and thoughtful went to him. His father spoke not, but tenderly embraced him. The boy said, "Father, dear, why sittest thou silent to-day? Why not regard me with thy usual look of affection? What offence have I committed that thou wilt not even look cheerfully on me?" The Guru taking compassion on his dear child, seated him near and said, "My son, thou knowest nothing now. Thou art still a child. This matter on which the Brahmans have come is of vital importance. The world is grieved by the oppression of the Turks. No brave leader is now to be found. He who is willing to sacrifice his life, shall free the earth from the burden of the Muhammadans." The child replied: "For that purpose who is more worthy than thou who art at once generous and brave?"

Upon this Guru Teg Bahadur decided that he would sacrifice his life for the protection of the Hindus and the destruction of the Turkish Empire in India. He drew up the following message to the Emperor for the Kashmiris, and told them to send it without delay—"We live on the offerings of the Kshatris. Guru Teg Bahadur, the foremost among them, is now seated on the throne of Guru Nanak, and is Guru of all the Hindus. If thou canst first make him a Musalman, then all the Sikhs and the Brahmans who live on his offerings shall of their own accord adopt thy faith."

Upon this Aurangzeb summoned Guru Teg Bahadur, and tortured him, but without avail, in the hope that he would accept Islam. An incident which occurred during his incarceration in Delhi deserves to be specially mentioned. One day as he was on the top story of his prison, the Emperor thought he saw him looking towards the south in the direction of the imperial zanana. He was sent for next day and charged with this grave breach of Oriental etiquette and propriety. The Guru replied, "Emperor Aurangzeb, I was on the top story of my prison, but I was not looking at thy private apartments or at thy queens. I was looking in the direction of the Europeans who are coming from beyond the seas to tear down thy pardas and destroy

thine empire." A Sikh writer states that these words became the battle-cry of the Sikhs in the assault on Delhi in 1857 under General John Nicholson, and that thus the prophecy of the ninth Guru was gloriously fulfilled.

The Emperor subsequently ordered that the Guru should be imprisoned in an iron cage, and a sentry with a drawn sword placed on guard. In reply to the further demands that the Guru should embrace Islam, the Guru sent the following message: "I will not accept thy law or thy religion, and I will not abandon my faith. The glory of the Turkish power is now at an end, since thou art forcibly depriving men of their religion. I will dig up the roots of the Turks, and throw them into the briny ocean, and since what is melted with salt shall never revive, thy descendants shall not long hold sway in Hindustan."

The Guru was subsequently beheaded by order of Aurangzeb in A.D. 1675. The task of avenging his death and freeing his country from its oppressors was left to his son, Guru Gobind Singh, who vowed that he would make his Sikhs such that one of them could hold his ground against one hundred thousand others,

Guru Gobind Singh prepared himself with great diligence for his warlike mission. He procured a supply of sharp-pointed arrows from Lahore, and practised archery with great industry. As he grew up, he followed the chase and made himself an expert in the use of fire-arms; and for his troops he built a big drum which he called Ranjit, or Victorious on the battle-field.

Raja Ram of Asam felt himself indebted to Guru Teg Bahadur for a signal favor conferred on him, when that Guru went on an expedition to Kāmrup with Raja Ram Singh of Jaipur, and he determined to show his gratitude. He accordingly took Guru Gobind Singh valuable presents in which were included a sagacious elephant, an instrument which could be turned into five offensive or defensive weapons, a throne from which, by pressing a spring, puppets emerged and played Indian draughts, etc., etc.

Bhim Chand, the Raja of the hill state of Kahlúr, heard of the elephant presented to the Guru, and resolved to take possession of it. He pretended he wished to borrow the animal to grace the marriage of his son with the daughter of Fatah Shah, Raja of Srinagar in the present British Garhwal district. The Guru knew that if Bhim Chand once got possession of the elephant, he would never return it, and the elephant was accordingly refused. The Masands, men employed to collect offerings for the Guru, went to the Guru's mother, and requested her to advise the Guru not to refuse the elephant. His mother so advised the Guru, and also endeavoured to divert him from his warlike preparations and pursuits. The Guru replied: "Mother dear, I have been sent by the immortal God. He who worshipeth Him shall be happy; but he who acteth dishonestly and worshipeth stones shall receive merited

retribution. This is my commission from God. I am a grandson of a Guru who killed hundreds of thousands of Turks. If to-day I give Raja Bhim Chand the elephant, I shall have to pay him tribute to-morrow. He essayeth to terrify me, but I only fear the immortal God, and know none besides."

The spirit which animated the Sikhs at that time may be inferred from the reply made to the Guru's mother on the occasion by Nand Chand whom the Guru afterwards made his Prime Minister: "Lady, hath a tiger ever feared jackals? Hath any one ever seen the light of the fire-fly in bright sunshine? What availeth a drop of water in comparison with the ocean? The Guru is a tiger brave and splendid as the sun. Shall he fear Bhim Chand? When the foolish hill-men, who are like mosquitoes, contend with the Guru, they shall become acquainted with our strength and repent when it is too late." After this the Guru enlisted all who flocked to his standard and soon became possessed of a very formidable force.

Fatah Shah, Raja of Srinagar, made him overtures, and invited him to the wedding of his daughter with the son of Bhim Chand. The Guru declined the invitation, but sent his Prime Minister with a costly necklace as a marriage present and an escort of five hundred men.

The Guru, who was at the time the guest of the Raja of Nahan and encamped at Rájghát not far from Debra Dun, allowed Bhim Chand's son to pass with his marriage procession, but thought it best to bring matters to an early issue with Bhim Chand, so that he might not grow too powerful. The Guru accordingly refused to allow him to pass by the place where he himself had taken up his position. The Guru thus addressed Bhim Chand's envoy: "Thy Raja hath brought a marriage procession here, and so I have prepared a feast for him in which there are shields for plates, swords for carving-knives, bullets for sweets, arrows for *jalebis*, all of which shall be served up by my warriors. If thy Raja desire such a feast as this, he is welcome to come this way. I speak deliberately."

Raja Fatah Shah was much distressed at the Guru's action in thwarting Raja Bhim Chand and virtually forbidding his presence at his son's marriage. Fatah Shah was therefore easily induced by the Guru's enemies to reject the marriage present and attack his Prime Minister on his homeward journey. When, however, the Sikhs discharged a volley at the attacking force, the latter fled, and allowed the Sikh army to return to the Guru without further molestation.

The Guru, who apprehended a further attack from the hill chiefs, put himself in a posture of defence near Bhangáni, a village between the Jamna and the Giri rivers, and not far from the city of Rajpur. The Guru was now placed in a difficult position by the cowardly desertion of five hundred Pathans who went over in a body to the enemy. It was to these Pathans the Guru addressed his memorable speech, which now, after many vicissitudes of fortune, inspires the Khalsa with heroic resolution and devotion to the British Government.

"Be loyal to your sovereign, leave death and life in the hands of God. Desert not your posts, abandon not your duty, and you shall be happy in this world and the next. If you die in battle, you shall obtain glory to which not even monarchs can aspire. Shame not your sires and your race. He who forsaketh his master in battle shall be dishonored here and condemned hereafter. The vultures knowing him to be disloyal, will not touch but spurn his flesh. He shall not go to heaven hereafter, nor obtain glory here. Abundant disgrace shall light upon his head. Be assured of this that human birth shall be profitable to him who loseth his life with his face to the foe. For all the drops of blood that fall from his body, so many years shall he enjoy the company of his God."

When the Guru heard of the approach of the armies of Raja Bhim Chand and his allies, he sent for his arms and armour, and addressed the following prayer to the God of battles, whom he designated All-steel—

Eternal God, Thou art our shield,
The dagger, knife, the sword we wield.
To us protectors there are given
The timeless, deathless, Lord of Heaven;
To us All-steel's unvanquished might;
To us All-time's resistless flight;
But chiefly Thou, Protector brave,
All-steel, wilt Thine own servants save.

He then repeated the following :—

May the Holy Sword assist me !

Having first remembered the Sword I meditate on Guru Nanak,

Then on Gurus Angad, Amardas, and Ramdas ; may they assist me !

I call to mind Arjan, Har Gobind, and the holy Har Rai.

I meditate on the holy Har Krishan, a sight of whom dispelled all suffering.

I invoke Teg Bahadur that the nine treasures may hasten to my home.

Ye holy Gurus, everywhere assist me !

Guru Gobind Singh would have hailed as a brother our English poet Erasmus Darwin, who wrote of steel—

Hail, adamant Steel, magnetic lord,
King of the prow, the ploughshare, and the sword.
O'er restless realms, when scowling Discord flings
Her snakes, and loud the din of battle rings,
Expiring strength, and vanquish'd courage feel
Thine arm resistless, adamant Steel !

The details of this battle given by the Sikh chroniclers are very long and cannot be given here. Suffice it to say that the Guru gained a decisive victory.

While Aurangzeb was making war on Tana Shah, King of Golkanda, the old capital of Haidarabad in the Dakhan, there arose great administrative irregularities. Mian Khan, the Emperor's Viceroy of Jammu, claimed tribute from the hill chiefs of the Punjab, and on their refusal proceeded against them. This time the Guru assisted the hill chiefs, and the combined forces routed Mian Khan and his partisans.

One Diláwar Khan, who had obtained power in the Panjab during the absence of Aurangzeb in the Dakhan, sent his son with a strong force to exact tribute from the Guru. When Dilawar Khan's son failed to make a stand against the Sikhs, his cause was espoused by a slave called Husain. The Guru sided with the oppressed Rajas who gained the victory by his mediation. Husain was slain on the battle-field, and Dilawar Khan's exactions were thus terminated.

The practice of arms was never lost sight of at the Guru's court. Even his eldest son, Ajit Singh, though now only ten years of age, was duly instructed in the use of offensive and defensive weapons. The Guru used to take his second son, Zoráwar Singh, in his lap while he watched Ajit Singh fencing. Jujhár Singh, too, used to be brought up by his nurse to witness the performance, and imbibe sometimes a love for manly and martial exercises. The Guru often informed his children of what his family had suffered from the Turks, so it behoved them to learn how to protect themselves and their Sikhs.

To further inspire his followers with a love for warfare the Guru translated for them from the Sanskrit the episode in the Markandeya Puran which describes the battles of Chandi with the demons who had made war on the gods. The Guru declared that he translated such works into the vulgar tongue with no other desire than to inspire love for religious warfare. In the end of the translation of "Chandi Charitar" or deeds of Chandi, we find the following—

Grant me, Divine Power, this boon, that I may never flinch
from noble deeds,

And that when I go to fight I may not fear the enemy, but
make certain of my victory ;

That I may school my mind to the ardent desire to sing Thy
praises ;

And that, when my last moment cometh, I may die fighting
in a very mighty battle.

The manner in which the Guru initiated his Khande-ki-pahul, or baptism by the dagger, is too long to be described. It will be sufficient to say here that the Guru in order to test the devotion of his followers asked who were willing to sacrifice their lives for him. Five Sikhs were found willing to do so. He called them severally within an enclosure of tent-walls, killed five goats instead of the

five Sikhs, and presented his dripping sword to the populace, who at first believed that the five Sikhs had been sacrificed. These five faithful Sikhs he baptized and called "Panch Piáre," or the five beloved Sikhs of the Guru.

There is a legend that, as the Guru was stirring the baptismal water, two sparrows came and filled their beaks with it. Then flying away they began to fight, the chronicler states, like two rajas struggling for supremacy, and ultimately died by mutual slaughter. The inference was that all animals which drank the Guru's baptismal water should become powerful and warlike.

The Guru said that he would change his followers from jackals to tigers, and kill hawks with sparrows. By this he meant that by means of men often unwarlike who joined his standard and received his baptism, he would destroy the marauding and oppressive Mughals.

As the result of a skirmish between the troops of two hill rajas and the Guru's escort during a hunting excursion, the hill chiefs made a complaint against the Sikhs to the Viceroy of Delhi, which was duly forwarded to Aurangzeb in the south of India. The Emperor consented to send an expedition against the Guru provided the hill chiefs defrayed its expenses. The hill chiefs accordingly joined and contributed a lakh of rupees, whereupon a force of ten thousand men was sent against the Guru. The imperial troops with the contingents of the several hill chiefs all formed a very powerful and formidable army, but yet they were totally defeated near Anandpur.

All the hill chiefs, including those who had fought and those who had stood aloof from the recent battle, again joined in one grand expedition against the Guru, and proceeded to invest Anandpur. It was on the occasion of this expedition the Guru composed the following :—

I do not at the outset propitiate Ganesh ;

I never meditate on Krishna or Vishnu ;

I have heard of them, but I know them not ;

It is only God's feet I love.

Mahakál, be thou my protector.

All-steel, I am thy slave.

Deeming me Thine own, preserve me ;

Think of mine honor, whose arm Thou hast taken.

Deeming me Thine own, cherish me ;

Single out and destroy mine enemies.

May both my kitchen and my sword prevail in the world !

Preserve me and let none trample on me ;

Be Thou ever my cherisher.
 Thou art the Lord, I am Thy slave.
 Deeming me Thine own, be gracious unto me ;
 Perform everything for me Thyself ;
 Thou art the King of kings ;
 It is Thou alone who cherishest the poor ;
 Deeming me Thy slave, bestow Thy favour on me ;
 I have arrived and am lying weary at Thy door ;
 Deeming me Thine own, cherish me ;
 Thou art my Lord, I am Thy slave.
 Deeming me Thy slave, reach me Thy hand and save me ;
 Destroy all mine enemies !

When the allied armies were defeated, they again had recourse to the Imperial Government for assistance. They deputed one envoy to the Viceroy of Sarhind and another to the Viceroy of Dilli. The Viceroy of Dilli had enough to do to maintain order in the absence of the Emperor, so the Viceroy of Sarhind was ordered to proceed at once with his army to expel the Guru from Anandpur, and restore that part of the country to Raja Ajmer Chand, Raja Bhim Chand's successor, who was described as its rightful owner.

The Guru, this time overpowered by superior numbers, was obliged to evacuate Anandpur and take refuge in a village called Nirmoh. After some respite and the receipt of reinforcements he again took possession of Anandpur amid general rejoicing. He repaired and re-decorated the city, and abode there in peace for some time.

Raja Ajmer Chand, though overtly on good terms with the Guru, was ever conspiring against him. He tampered with two Mubam-madan generals who were marching from Lahore with a large army, and induced them to promise to join him in an attack on Anandpur. One of the generals very soon seceded to the Guru, and this ended what might have otherwise been a very serious engagement for the Guru, who had not yet raised his army to the necessary number or efficiency.

Raja Ajmer Chand again summoned his allies with the object of chastising the Guru. There came to him Raja Bhup Chand of Handúr, the Raja of Chamba, Raja Wazir Singh of Fatahpur, and Raja Dev Saran of Nahan. Raja Ajmer Chand made a speech in which he warned his brother chiefs of the fate in store for them from the Guru, and advised them to join in another expedition to crush him. They all expressed themselves in favour of immediate action, and addressed the Guru a joint letter to the effect that

they had lived peaceably for some time, but found he would not cease his aggression, and they were therefore obliged to declare war against him. The Guru briefly replied: "My Sikhs have only come into collision with those who restrained them from the chase. The Khalsa are ever awaiting battle. To fight and die is the duty of the brave. Come and see the power of the Khalsa."

This led to another expedition against Anandpur. The hill chiefs again combined, and again sought the assistance of the Imperial troops. They promised the Emperor large tribute as the price of his succor and protection. A few of the hill chiefs made a representation to the Guru that the Muhammadans and Hindus were very numerous, and how could the Sikhs, who were so few, contend with them, much less hope to obtain empire? The Guru replied, "What God willeth shall take place. When the army of the Turks cometh, my Sikhs shall strike steel on steel. The Khalsa shall then awake, and know the play of battle. Amid the clash of arms the Khalsa shall be partners in present and future bliss, tranquillity, meditation, and divine knowledge. Then shall the English come, and, joined by the Khalsa, rule as well in the East as in the West. The holy Baba Nanak will bestow all wealth on them. The English shall possess great power and by force of arms take possession of many principalities. The combined armies of the English and the Sikhs shall be very powerful, as long as they rule with united councils. The empire of the British shall vastly increase, and they shall in every way obtain prosperity. Wherever they take their armies, they shall conquer and bestow thrones on their vassals. Then in every house shall be wealth, in every house happiness, in every house religion, in every house learning, and in every house a woman."

The expedition then undertaken was unsuccessful, and failed to take possession of Anandpur or reduce the Guru to submission. Another representation was then made to the Emperor, and this led to a third expedition against Anandpur. When the Guru heard of it, he harangued his troops on the duty of religious warfare against Muhammadans, and on this subject he had much to say. From the time of the persecution of Guru Arjan up to the present the emperors had been open or covert foes of the Gurus and their Sikhs. The Guru affirmed that death on the battle-field was equal to the fruit of many years' devotion, and ensured honour and glory in the next world. He repeated the following on this occasion:—

Blest is his life in this world who repeateth God's name with his mouth and meditateth war in his heart.

The body is fleeting and shall not abide for ever; man embarking on the ship of fame shall cross the ocean of the world.

Make this body a house of resignation; light thine understanding as a lamp;

Take the broom of divine knowledge into thy hand, and sweep away the filth of timidity.

Anandpur was closely invested by the enemy. The siege and the sanguinary fighting on both sides occupy a large portion of the Sikh annals. During the progress of the siege the Emperor Aurangzeb, despairing of success, swore on the Quran and sent his written promise to the Guru, that if he evacuated the city no harm should befall him. The Guru believed and afterwards proved, that this was a trap laid by the Emperor to effect his capture. After a gallant defence, during which the Sikhs made many sorties and inflicted great loss on the enemy, the garrison was starved, not into submission but into evacuation, and the Guru, his family, and the survivors of his army escaped during the night.

The Guru's rear-guard was harassed by the allied army, and at last he reached the village of Chamkaur. He there converted a house in which he had taken shelter into a fort, and made a determined effort to defend himself and his followers, who now only numbered forty, including his two sons, Ajit Singh and Zorawar Singh.

In Chamkaur the Guru's two eldest sons were slain. On their death the Guru said: "O God, it is Thou who sentest them, and they have died fighting for their faith. The trust Thou gavest hath been restored to Thee."

The Sikhs who had fled with the Guru from Anandpur, were all slain in this battle except three. The Guru after some wandering donned a blue robe and sheet, and his three Sikhs and two faithful Muhammadan friends, who subsequently joined him, informed all enquirers that he was Uch da Pir—an expression which meant either Priest of Uch or exalted Guru—and that he was now travelling and seeing the country for his own pleasure. The Guru after much travel and hardship found his way to a place called Jatpura in the Ludhiana District.

When the Guru abandoned Anandpur, his mother Mai Gujari and his two youngest sons did not accompany him, but took a different road, expecting shelter anywhere except in Anandpur. On the way they met a Brahman who pretended to sympathize with them, but subsequently betrayed them to Wazir Khan, the Governor of Sarhind.

Wazir Khan reflected that if the children became Muhammadans, it would be a gain and glory to his faith. He told them that if they would accept his religion he would grant them an estate, marry them to the daughters of chiefs, and they should become happy and be honoured by the Emperor. Jujhár Singh then looking at his younger brother said: "My brother, the time to sacrifice our lives, as our grandfather Guru Teg Bahadur did, hath now arrived. What thinkest thou?" Fatah Singh replied, "My brother, our grandfather parted with his head, but not with his religion, and he ordered that we should follow his example. Now since we have been baptized and tasted the nectar of the dagger, what care we for death? Wherefore it is best that we should give our heads, thus save our religion, and bring down God's vengeance on the Turks."

Jujhâr Singh again spoke on the same subject—"My brother, our grandfather, Guru Teg Bahadur, spurned the Muhammadan religion. We have had a man like Guru Gobind Singh our father, a man like Guru Teg Bahadur our grandfather, a man like Guru Har Gobind our great-grandfather. We, who are their descendants, cannot attach a stigma to their memories." The young boy waxing still more angry continued: "Hear, oh Viceroy, I spurn thy religion and will not part with mine own. It hath become the custom of our family to forfeit life rather than faith. Why seekest thou to tempt us with worldly ambition? We shall never be led astray by the false advantages thou offerest. The indignities the Turks inflicted on our grandfather shall be the fire to consume them, and our deaths the wind to fan the flame. In this way shall we destroy the Turks without forfeiting our holy faith."

The Governor after some further colloquy put the Guru's two sons to death, according to some accounts, by bricking them up in a wall, and, according to others, by beheading them. Only one Muhammadan raised his voice against the execution, and he was the Nawab of Maler Kotla, who said, "O Viceroy, these children are still drinking milk in the nursery, and are too young to commit an offence. They know not good from evil. Wherefore be pleased to let them depart."

The Guru continuing his flight arrived at a place called Dina in the Firozpur district. It was there the Guru wrote his celebrated Persian letter to the Emperor Aurangzeb. An extract from it must be here given:

"I have no faith in thine oath to which thou tookest the one God to witness. I have not a particle confidence in thee. Thy treasurer and thy ministers are all false. He who putteth faith in thine oath on the Quran is *ipso facto* a ruined man. Had I even secretly sworn on the volume of my choice faith to accept thy religion, I should not have had to withdraw my infantry and cavalry from Anandpur."

So far the Guru's letter refers to the siege of Anandpur; what follows to the operations at Chamkaur:—

"As to my defeat at Chamkaur, what could forty men do when a hundred thousand came on them unawares? The oath-breakers attacked them abruptly with swords, and arrows, and muskets. I was constrained to engage in combat, and I fought to the utmost of my strength. When an affair passeth beyond the reign of diplomacy, it is lawful to have recourse to the sword. Did I not know that thou wert crafty and deceitful as a fox, I should never on any account have come hither. He who cometh to me, and sweareth on the Quran ought not to kill or imprison me. Thine army came clothed like blue-bottles, and all of a sudden charged with a loud noise. Every soldier of thine who advanced beyond his defences to attack my position, fell deluged in blood. Thy troops who committed no aggression received no injury at our hands. When I saw that Nahar Khan entered the fight, I quickly gave him the taste of my arrow. Many soldiers who

came with him and boasted of their prowess, ignominiously deserted the field of battle. Another officer advanced like a rushing flood, an arrow, or a musket-ball. He made many assaults, received many wounds, and, at last, while in the act of killing my men, was killed himself. Khwaja Mardúd remained behind a wall, and came not forth like a man. Had I but seen his face, I would of necessity have bestowed an arrow on him also. At last from showers of arrows and bullets many were killed on both sides, and the earth became red as a rose. Heads and legs lay in heaps as if the field were covered with balls and hockey-sticks. The whizzing of arrows, the twanging of bows, and a universal hubbub reached the sky. Men, the bravest of the brave, fought like madmen. But how could forty even of the bravest succeed when opposed by a countless host? When the lamp of day was veiled, the queen of night came forth in all her splendour, and God who protected me showed me the way of escape from mine enemies. There was not a hair of my head injured. God, who destroyeth enemies, protected me. Did I not know that thou, O faithless man, wert a worshiper of wealth and perjurer? Thou keepest no faith and observest no religion. Thou knowest not God, and believest not in Muhammad. He who hath regard for his religion never swerveth from his promise. Thou hast no idea of what an oath on the Quran is, and canst have no belief in God. Wert thou to take a hundred oaths on the Quran, I would not even then trust thee in the slightest. Hadst thou any intention of keeping thine oath, thou wouldst have girded up thy loins and come to me. When thou didst swear by Muhammad and called the Word of God to witness, it was incumbent on thee to observe that oath. Were the Prophet himself present here, I would make it my special object to inform him of thy conduct. Do what is incumbent on thee, and adhere to thy written promise. Thou shouldst have cheerfully fulfilled it, and also the verbal promises of thine envoy. Everybody should be a man of his word, and not utter one thing while he thinketh another. What though my four sons were killed, I remain behind like a coiled snake. What bravery is it to quench a few sparks of fire? Thou art merely exciting a raging fire the more."

The Guru in his flight visited Kot Kapúra in the present State of Faridkot. He begged Kapura's permission to take shelter in his fort. Kapura replied that he had no power to withstand the imperial hosts, and had no desire to wander a fugitive like the Guru. The Guru said the Muhammadans would take his fort, put his head into a bag of ashes, and then hang him. Kapura left the Guru in anger, and going home closed the doors of the fort, so that he might not enter by surprise.

The Guru's words were subsequently fulfilled. This was the second time the state of Faridkot was cursed. It had been previously cursed by Shaikh Farid when he was impressed as a laborer on the occasion of his visit.

A timely reinforcement of forty Sikhs of the Mánjha now reached the Guru and promised to assist him in his dire extremity. He was

continually pressed by the imperial troops on several occasions, and very nearly captured.

The Guru, his personal guard, and the forty Sikhs of the Manjha moved on to a place then called Khidrāna. On arriving there the men of the Manjha decided to cover the trees with clothes so that the enemy might think they were in great force, and fear to make a sudden attack on them. Kapura appeared in the enemies' ranks. He apparently came to show them the way by which he had instructed his officer to take the Guru, and thus complete his treachery.

This was the Guru's last serious battle. The forty Sikhs of the Manjha were all either slain or fatally wounded. On the spot where they fell was subsequently constructed a tank called Muktsar, which has now given its name to the town formerly called Khidrāna. It is in the present district of Firozpur.

In the process of collecting the dead and wounded there was found the body of one woman, the heroine Bhago. She told the story of her departure from her home in the company of the Sikhs of the Manjha, and then continued: "I obtained possession of a strong spear. When all the Singhs were dead, the Turks advanced on me. I spitted several of them. Others directed their weapons against me but thou didst extend thine arm to save me. Now that I have seen thee, I am happy, and have no further desire than to abide with thee."

The remainder of the Guru's story must be briefly told. When Aurangzeb died, his son, Bahádur Shah, was advised to seek the Guru's assistance. The Guru proceeded in person to Dihli to meet him. The Sikh writers state that Bahadur Shah wrested the throne from his brother, Tara Azim, by the Guru's spiritual assistance. The Emperor and the Guru appear to have been on very friendly if not familiar terms, and to have visited many places together. They parted at a place called Burhanpur in the Dakhan, and the Guru thence proceeded to Nander in the present state of Haidarabad. This was the Guru's final resting-place.

There are different accounts of the death of the Guru. The most probable is that of the Persian writer, Khafi Khan, author of the "Muntakhab-ul Lahab." Khafi Khan states that once, as the Guru was preaching an Afghan, who often attended his religious services, took offence at some expression uttered, and in a fit of religious frenzy dealt the Guru two or three blows with a poniard.

The Guru, by the skill and tender care of surgeons sent to treat him by the Emperor, was on the way to recovery when, on a doubt being expressed whether any one could bend certain bows, the Guru took up one of them, and on drawing it burst open his imperfectly healed wounds. This time the wounds were past medicament.

His Sikhs seeing the Guru past recovery, went to him and said: "While thou wert alive, we had the benefit of thy presence, but we

require instruction which may remind us of thee hereafter and assist us to salvation." The Guru replied: "O, dear and beloved Khalsa, the immortal God's will can never be resisted! He who is born must assuredly die. Guru Arjan hath said, 'Everything we behold shall perish.' Night and day are merely expressions of time. It is the immortal God alone who ever abideth. All other beings, however holy and exalted, must depart when the last moment allotted them arriveth, for none can escape the primordial law of death. All this world composed of the five elements is its prey. When the materials perish, how can the fabric remain? God, the Creator and Cherisher of all, is alone immortal. Brahma, Vishnu, Shiv, and the other gods of the Hindus perished at their appointed times. Of what account is man? Wherefore, O, my friends, it is not good to be unduly enamored of this fragile body! Know that the light of the imperishable immortal God, whose attributes are permanence, consciousness, and happiness, shineth ever in you. Wherefore always abide in cheerfulness, and never give way to mourning. God is ever the same. He is neither young nor old. He is not born, neither doth He die. He feelth not pain or poverty. Creatures who are saturated with bodily pride are very unhappy, and night and day the prey of love and hate. Ever entangled and involved in the deadly sins, they perish by mutual enmity, and at last find their abode in hell. Yet for the love of these creatures the Guru assumed birth to deliver them. He hath instructed them in the True Name; and very fortunate are they who have received and treasured his instruction. By it they are enabled to save themselves and others from the perils of the world's ocean. As when after drought rain falleth and there is abundance, so the Guru, seeing human beings suffering and yearning for happiness, cometh to bestow it on them, and remove their sorrows by his teaching. And as the rain remaineth where it falleth, so the Guru's instruction ever abideth with his disciples. The Sikhs who love the true Guru are in turn beloved by him. O Khalsa, remember the True Name! The Guru hath arrayed you in arms to procure you the sovereignty of the earth. Those who have died in battle have gone to an abode of bliss. I have attached you to the skirt of the immortal God, and entrusted you to Him. In former times Guru Nanak composed in popular language his hymns which are for the Sikhs as the Veds for the Hindus. Read them or listen to them, so shall your minds receive consolation, and you shall undoubtedly obtain an abode in the Guru's heaven. Those who remember the True Name render their lives profitable, and, when they depart, enter the mansions of bliss."

The Guru continued—"Let those who are baptized according to my rites bear arms and live according to their means. Let them remain true to their sovereign in the battle-field, and not turn their backs to the foe. Let them face and repel their enemies, and they shall obtain both glory in this world and the heroes' heaven in the next. He who fleeth from the battle-field shall be dishonored in this world, and, when he dieth, shall be punished for his cowardice, and nowhere shall he obtain happiness. Let the members of the Khalsa

associate with one another and love one another irrespective of tribe or caste. Let them hearken to the Guru's instruction, and let their minds be thoroughly imbued with it."

To prepare for his end the Guru bathed and changed his dress. While doing so he gave instruction that no clothes should be bestowed as alms in his name. He then put on a muslin waistband, slung his bow on his shoulder, and took his musket in his hand. He opened the Granth Sahib and, placing five pice and a cocoa-nut before it, solemnly bowed to it as his successor. Then uttering "Sri Wah Guru ji ka Khalsa, Sri Wah Guru ji ki Fatah!" he four times circumambulated the sacred volume and said, "O beloved Khalsa, let him who desireth to behold me, behold the Guru Granth. Obey the Granth Sahib. It is the visible body of the Guru. And let him who desireth to meet me diligently search its hymns."

Such are the deeds that have been done, the prophecies that have been uttered, and the instruction that has been imparted by that great succession of men, the Sikh Gurus. In them the East shook off the torpor of ages, and unburdened itself of the heavy weight of ultra-conservatism which had paralysed the genius and intelligence of this country. Only those who know India by actual experience, can adequately appreciate the difficulties the Gurus encountered in their efforts to reform and awaken the sleeping nation. Those who, removed from the people and dwelling in the lofty and serene atmosphere of their own wisdom and infallibility, deem Sikhism a heathen religion, and the spiritual happiness and loyalty of its professors negligible items, are men whose triumph shall be short-lived, and whose glory shall not descend with the accompaniment of minstrel raptures to future generations. I am not without hope that when the English people become acquainted with the merits of the Sikh religion, they will not willingly let it perish in the great abyss in which so many creeds have been engulfed.

Other circumstances might have occurred which would have made the Sikh religion one of the foremost cults of the world, but it is now too late for repentance, nor do the Sikhs regret their being subject to the great country which rules with undisputed sway the Empire of India. But let us in return condescend to do some justice to those great men, the Sikh Gurus, martyrs, and saints, who, undeterred by persecution, devoted their lives to the uprooting of hypocrisy and bigotry, who evolved the highest and purest ethical system from the corrupt morals of their epochs, who foreshadowed the advent of a people from beyond the sea to aid them in dethroning the tyranny of race, and to reign long in harmony and alliance with them. Let us devoutly hope that all their proud prophecies in our favour may receive due fulfilment.

The foremost Oriental scholars of the world have expressed their sympathy with the Sikh religion, but they can naturally take only an academic interest in it; but to the Indian Government it not only presents an academic interest—which perhaps no intelligent Government may altogether despise—but also a deep political

interest, for in its civil aspect the Sikh religion connotes deep unquestioning loyalty, and in its military aspect the highest heroism and self-sacrifice

The Sikhs now number well over two million souls in the Panjab alone. We have some thirty thousand of them in our army, for the most part strategically disposed so as to temper or leaven the loyalty of other races. The Sikhs thus combine to form cohorts of much greater strength and importance than their numerical value would seem to indicate. It does not appear rational, much less politic, to allow them to lose their distinctive character, to revert to gross superstition and social deterioration, and to divest themselves of those feelings of loyalty which in peace as well as in war have made them the mainstay and pride of the British Government in India

After the lecture Lord Kitchener rose and spoke as follows:—

"I need hardly tell Mr. Macauliffe that we have all listened with the greatest interest to his instructive lecture on the subject, "How the Sikhs became a militant race." The prophecies of the ninth and tenth Gurus of the coming of the British, and of future toleration under England's benign rule for all creeds, have been amply fulfilled. It would be hard to find a finer teaching for a good soldier than Guru Angad's, whose instructions, "to fight for his master and not consider whether his side was in a numerical minority," contain the principle of high military morale. Since Sikh soldiers have helped to uphold the British flag we have had many examples that the teachings of the Gurus still inspire their disciples. We all remember how in recent years the 14th Sikhs so magnificently held their own in Chitral, while the heroism of the small detachment of 36th Sikhs at Saraghari, when besieged by thousands of Afridis, was worthy of the traditions of any army in the world. (Applause.) On that occasion the Sikh signaller in Saraghari sent as his last message to his Commanding Officer, the gallant Colonel Haughton, at Fort Lockhart, "They are getting in now; shall I go on signalling, or shall I take a rifle?" (Applause.) And only last month we heard of a small party of 48 men of the 2nd Sikhs in Somaliland who, overwhelmed by superior numbers, and having fired away their last cartridges, fell to a man on the ground which they had defended so gallantly throughout the day. (Loud applause.) Such men—simple in their religion, free in not observing caste prejudices, manly in their warlike creed, and in being true sons of the soil, not always quick of understanding but brave, strong, and true—are of priceless value to the Empire, and long may the Sikhs follow the injunction, "to fight for him whose salt thou hast eaten." (Applause.) I may mention that in 1887 we had in the Indian Army 36 squadrons and 116 companies of Sikhs, representing a total of about 19,000 men. At the present time we have 39 squadrons and 204 companies in the Regular Army, besides 4,000 men in the Burma Military Police, making a total of some 30,000 Sikhs serving in military capacities. During the same period some 10,000 Sikhs must have passed to the reserve. These figures speak for themselves, and I think show that the Government has not failed to

encourage Sikhism, which has been further fostered by the improved organisation of forming the Sikhs into separate class regiments, squadrons, and companies, thus helping them to keep up the purity of their religion. In 1887 we had only three Sikh regiments; we now have six. Similarly before 1887 we had only two battalions of Pioneers recruited from the Mazbi Sikhs, descendants of the family who rescued the body of Teg Bahadur from a Muhammadan jail where it had been flung. We now have three of these battalions. By the raising also of class companies of Lobanas and other Sikhs a great revival of Sikhism has taken place in classes where it had almost died out, thus carrying out the precepts of Guru Gobind Singh that Sikhism should be open to all classes, and not kept as the special privilege of anyone in particular. There is another form of encouragement which I well know must appeal to the whole Sikh people, and that is the liberal distribution of land on the Jhelum and Chenab Canals, which is being granted to our pensioned Sikh soldiers under the excellent arrangements made by His Honour the Lieutenant-Governor, to whom we are all grateful. (Applause.) Mr. Macauliffe has dealt with the Sikh soldiers, I should like to add a word about the Sikh rulers, and to recall to you the splendid loyalty of those Sikh Chiefs who in the dark hours of the Mutiny of 1857 spontaneously threw in their lot with us. The enormous moral effect of their prompt declarations in favour of British rule cannot be over-estimated, whilst the material assistance afforded by these Chiefs greatly aided us in the capture of Delhi and the re-establishment of peace in Oudh. We heartily welcome here to-day the Raja of Nabha, that venerable Chief whose bearing is an example to all Sikhs, and who only yesterday in conversation with me said, "The swords of the Sikhs are always ready, and their best scabbards are the bodies of the King's enemies." (Loud applause.) I have great hopes that the formation of the Imperial Service Troops has done much to foster the spirit and maintain the purity of Sikhism in the Sikh States, in whose regiments, as in our own, the observance of strict Sikh tenets is now insisted on. It must be a matter of great satisfaction to Mr. Macauliffe that the Amritsar Singh Sabha have accepted his translations as being thoroughly accurate. His self-imposed task is nearly done, and we may say with confidence that in putting the study of the Sikh holy writings within our reach Mr. Macauliffe has earned the approbation of all who know the great value of the Sikh soldier; the cordial recognition of the rulers of the country, and the gratitude of the Chiefs, Sardars and people of the Sikh community—a feeling of gratitude which I feel sure will be much increased when Mr. Macauliffe has translated the sacred writings into the ordinary Punjabi of the day, a labour which, I understand, he is about to commence, and which will I hope result in their general dissemination through every Sikh household in the country. (Loud and prolonged applause.)

Mr. H. H. Risley said he had been asked by His Highness the Raja of Nabha to read the following remarks:—"I thank His Excellency the Commander-in-Chief very much, who has so kindly accepted to preside at this lecture, which is of great interest and

importance to us. My thanks are due to Mr. Macauliffe also. He has conferred a lasting boon on the Sikh nation by his translation of their sacred books into English faithfully to the original after a great labour of years. It will be a source of valuable information to the Oriental scholars, as well as a great help to the British people in understanding the Sikhs adequately, of whose military services they hear much but know very little of their pure and simple religion, which prepares their minds to do these services of loyalty and devotion. These words of mine would be wanting in their finishing touch if I omitted to express my sense of gratitude to the British Government, one of the blessings of which is its liberal sympathy with those over whom it rules. It is this liberal sympathy which brings us together to-day to have a discourse on religion. What a vast difference between these times of peace and the old times of tyranny and overruling the feelings of others, when the Hindus were converted to Islam by force. Again, it is this sympathy for our Government, for whose establishment our ninth Guru pronounced his benediction, to which we look for help in a calling want for the Sikhs of their moving pace to pace with other races of India in intellectual advancement."

LECTURE ON THE ATLANTA CAMPAIGN.

May 7th to September 2nd, 1864.

LECTURE BY COLONEL F. M. RUNDALL, D.S.O., LATE COMMAND-
ING 1ST BATTALION, 4TH GURKHA RIFLES, 19TH AUGUST 1903.

The Hon'ble Major-General Sir E. R. Elles, K.C.B., in the Chair.

It is possible that some people may object to a lecture on a campaign that took place so long ago. Many may prefer to listen to something that has happened more recently, on the grounds that now-a-days conditions of warfare are altered, and that therefore there is little to be learnt from the past. But the present is built up on the past, and the latter's now silent but eloquent lessons need only to be voiced to still carry weight, and teach us lessons combining utility with interest.

Carlyle in his "*Past and Present*" takes, you will remember, the story of old Abbott Samson of St. Edmondsbury who lived many centuries ago, and on this man's character and deeds builds up a splendid Essay full of lessons for the present.

I have selected the story of the Atlanta Campaign for the subject of my lecture because I think that, not only does it contain interesting historical matter, but because I believe many useful lessons and hints may be learnt from it.

Those of you who attended or who have read my two lectures on the great Civil War of America, will remember that I divided it into two portions :—the war to the east of the Alleghanies, and the war on the west of that mighty range of mountains. The Campaign of Atlanta was one of those which formed part of the struggle fought out on the west of the Alleghanies. In the west the objects of the Federals (Northerners) were to obtain possession of that great river highway the Mississippi, and so to cut off the important supplies of food and men on which the Southern Forces in Virginia depended ; and also to seize the important lines of railway which run from west to east, and by which these supplies were conveyed.

The Federals (Northerners) gradually, but not without heavy losses and infinite difficulty, attained these objects, and forced the Confederates (Southerners) further and further south. When the Atlanta Campaign commenced the Northerners had succeeded in driving their

Authorities consulted—

Atlanta, by Major-General J. D. Cox.

The war with the South, by Robert Thomas, M.D.

Guerre de la Succession, by Ferdinand Lecompte.

History of the American War, by Lieutenant-Colonel Fletcher.

opponents across the Tennessee river after the two terrific battles of Chickamauga and Chattanooga, which were fought in the vicinity of that river. They had also taken Vicksburg, and had practically got possession of the whole of the Mississippi down to its mouth. And now to General Sherman was entrusted the task of driving the Confederates back upon Atlanta, and destroying the railroads there.

Atlanta was a town of about 15,000 inhabitants, though during the campaign the numbers rose to some 20,000. It was an important railway centre communicating with the Western Atlantic, and Gulf States. It was also one of the principal manufacturing towns of the south. It was about two miles in diameter, and from its centre radiated four railroads to Chattanooga, Macon, Augusta and Montgomery. It contained railroad machinery shops, foundries, and manufactories of warlike material, and clothing and other supplies for the Confederate armies. The line of approach to the city was made as difficult for Sherman as possible, and the town itself was surrounded by formidable earth works.

A glance at the map will show you that it was no light task that Sherman had before him. A great portion of the country through which he had to fight his way was a mass of extremely difficult mountains. All of us who have taken part in our frontier wars, or in mountainous country in other lands know that this kind of warfare is not to be lightly undertaken ; that it needs special training on the part of officers and men ; and that campaigns in a mountainous country are extremely difficult to carry out successfully, especially when a determined, vigilant, and able enemy defend the heights and passes, and entrench themselves in advantageous positions.

Now I want you to bear in mind that Sherman had no maps worth the paper they were drawn on, and neither he nor his men knew the country. On the other hand his adversaries were largely composed of men who did know the country ; and, as they retired from one defensive position to another, they had the advantage of traversing and personally viewing the ground that would subsequently be occupied by the attacking force. The retiring defenders were thus able to note the weak spots and prepare them for defence, while the attacking force had to find them out in the face of a heavy fire and strenuous opposition. As a matter of fact the Commander of the Confederate (Southern) Army generally had entrenchments thrown up on the position he intended to retire to before he evacuated the one he was holding.

I need hardly point out that as Sherman advanced he would move further and further from his base of supply, and his army would be weakened, not only by losses in action, but also by his being compelled to drop garrisons to guard his line of communications which consisted of a single line of railway. His opponent, on the other hand, would, as he retired, draw nearer and nearer to his base, and to a truly formidable position at Atlanta. Sherman also could not expect to draw much in the way of supplies from the country through which

he passed because, to begin with, it was unfriendly to his cause ; and, in the next place the retreating Southern Army would purposely drain it of supplies, and would not be likely to leave him more than they could help.

He had also another difficulty to contend against. Throughout the campaign in the western theatre of war the Northern Armies had suffered severely at the hands of the extremely active Southern cavalry who, by their prodigious and daring rides and raids, incessantly broke their lines of communications, tore up the railroads, destroyed bridges and supply depôts, and wrought such trouble and havoc as might well fill the heart of a commander with rage and despair. Sherman's single line of rail was very vulnerable, and it was all he had to trust to, and so he was compelled to guard it strongly.

Opposed to Sherman was General Joseph E. Johnston ; a man who, after Stonewall Jackson's death, was considered second only to General Lee as a leader of men in war.

Johnston was a man of great resource, forethought, and caution ; and a man not to be trifled with. But he had not the full confidence of Mr. Davis the President of the Southern or Confederate States ; and the estrangement that existed between him and the President resulted in his being fatally hampered. General Johnston was possessed of great military experience and knowledge ; his mind was systematic, his judgment sound, and his courage imperturbable. In this Campaign of Atlanta he adopted the plan of carefully entrenched lines, one succeeding the other. General J. D. Cox, one of the historians of this campaign, says : " He practised a lynx-eyed watchfulness of his adversary, tempting him constantly to assault his entrenchments, holding his fortified positions to the last moment, but choosing that last moment so well as to save nearly every gun and wagon in the final withdrawal, and always presenting a front covered by such defences that one man in the line was, by all sound military rules, equal to three or four in the attack. "

Now let us see what sort of a man General Sherman was to whom was entrusted the difficult task of defeating such a man as Johnston. General J. D. Cox writes thus of Sherman :—

Character of General William T. Sherman. " From the day of his appointment to this command to the close of the war the confidence of his army and its personal attachment to him never wavered. His courage and ability had been abundantly proved on many a stricken field, in many a campaign in the previous part of the Civil War. His nervous and restless temperament, with a tendency to irritability, might have raised a doubt whether he would be successful in guiding and directing men of the capacity of his principal subordinates ; but experience showed that he had the rare faculty of becoming more equable under great responsibilities, and in scenes of great excitement. At such times his eccentricities disappeared, his grasp of the situation was firm and clear, his judgment was cool and based upon sound military theory as well as upon quick practical judgment. His mind seemed never so clear, his confidence

never so strong, and his temper never so amiable as in the crisis of some fierce struggle like that of the day when McPherson fell in front of Atlanta."

The general plan of campaign, arranged by the Federal Commander-in-Chief, Grant, for 1864 was that he, Grant, should in Virginia press Lee back upon Richmond, while Sherman in the West was to press Johnston back upon Atlanta. At the same time Banks, with 25,000 men, was to move from New Orleans on Mobile and, should he take it, operate thence as an auxiliary to Sherman. Each of these three columns was expected to keep the Southern or Confederate Armies in its front so fully occupied that they would not be able to send reinforcements to each other.

On March 18th, 1864, Sherman assumed command of his army and naturally turned his attention to the serious question of transporting and supplying his force along a single line of rail. He issued orders by which this railway was kept wholly for military purposes, and was under military control. No private persons could use it either for purposes of travel or for sending goods. It was used exclusively for the transport of military supplies, and troops were ordered to march by road unless extremely urgent occasions arose which might necessitate their being railed. It was estimated that 1,300 tons per diem must be forwarded to keep the army supplied and to accumulate stores at certain spots in case of the line being interrupted by accidents or by the enemy's cavalry. The live stock for the army's use had to be brought by road, and all rolling stock, machinery, etc., were confiscated for military use.

Then as regards transport for the armies on the march, each regiment was allowed one wagon and one ambulance. The company officers of each company were allowed one mule only to carry their mess kit and personal baggage. A similar reduction to a minimum was made for the Head Quarter Staff of each Army Corps, Division or Brigade; while Sherman himself set an example to all by his contempt for personal comfort and convenience. The private soldier carried his own shelter tent or "rubber blanket". His haversack contained his rations, with a canteen and a small tin coffee pot fastened to his belt. A single sheet of light canvas was the only shelter for Division and Brigade head quarters, and the Staff were worse off for mess kits than the company officers and privates. About half way through the campaign the staff officers of one division boasted that, beginning with nothing, they had accumulated a kit consisting of a tin plate, four tin cups without handles, three round oyster tins for cups, two sardine boxes as extra plates, and a coffee pot. Pocket knives were the only cutlery needed. This outfit was declared to be luxurious compared to what Sherman himself had.

For railway repairs a corps of 2,000 men was organised under the control of a civil engineer, Colonel Wright. For the repair of wooden railway bridges a standard pattern of truss was invented, the parts of which were interchangeable, and the prepared timbers for which were

kept in stock at safe points in the rear. By means of this pattern of truss a bridge was renewed as if by magic within a few hours after the enemy's cavalry had destroyed it. At the Chattahoochee river great trestle bridges, hundreds of feet long and nearly a hundred feet high, were flung across a chasm with as little delay or trouble as an ordinary pioneer corps would make in bridging a petty stream. For instantaneous communication between the Commanding General and his principal subordinates the military telegraph was organised. A light train of wagons carrying wires and insulators moved with Head Quarters, and an operator with his instrument accompanied each Army Commander. Ordinary flag signals were also used.

Let us now examine the strength of the two opposing forces and the positions each occupied at the commencement of the Atlanta Campaign.

Strength and positions of the two opposing forces.

Sherman's Force was composed of three Armies; that is, the Army of the Cumberland, the Army of the Tennessee, and the Army of the Ohio.

The Army of the Cumberland was commanded by Major-General George H. Thomas, and consisted of 60,773 men, of whom 3,828 were cavalry. This Army was posted at and about Ringgold on the Western and Atlantic Railroad, some 23 miles south-east of Chattanooga.

The Army of the Tennessee was commanded by Major-General James B. McPherson until he was killed near Atlanta, when Major-General Oliver O. Howard succeeded him. The strength of this Army was about 24,465 men, including 624 cavalry. It was in a position at and near Gordon's Mill on the Chickamauga River, 8 miles west of Ringgold.

The Army of the Ohio was commanded by Major-General John M. Schofield, and numbered some 13,559 men, including 1,679 cavalry. Its position was near Red Clay 10 miles north-east of Ringgold.

The distance between McPherson and Schofield was about 16 miles in a line nearly at right angles to the road from Chattanooga to Dalton.

Thus Sherman had at his disposal nearly 100,000 men, of whom 6,131 were cavalry; he had also 254 guns.

As regards the Confederate Army under Johnston it is very difficult to know exactly what its numbers were, for the Confederates did not keep up such an accurate system of returns as did the Federals. It is, however, computed that Johnston had about 60,000 men before General Polk joined him with his force. Polk did not arrive with his reinforcements till May 11th, after the campaign had begun, and it is generally believed that he then brought Johnston's force up to some 75,000 men, including 10,000 cavalry.

Till General Polk joined him Johnston's Army was divided into two Army Corps under Lieutenant-General William J. Hardee, and Lieutenant-General J. B. Hood. The Cavalry Corps was under the Command of General Joseph Wheeler.

Johnston's Army was posted in and about Dalton, 15 miles south of Ringgold, on the railroad; his advance being at Tunnel Hill. Hardee's Corps comprised the left, and Hood's the right of the defence, while Wheeler's Cavalry covered Johnston's right. His position was entrenched and fortified to such an extent that it was practically impregnable. On the west of it ran a ridge called Rocky Face which is a continuous wall of quartz rock with precipitous faces. Part of this he occupied, as also the heights of a gorge to the north-west through which the railway runs, known as Buzzard's Roost. He had also dammed up Mill Creek, a stream which runs at the foot of Rocky Face Ridge and Buzzard's Roost; and everywhere strong earthworks bristled on the heights and were filled with determined veterans.

Sherman soon perceived that Johnston's lines before Dalton were too strong to be carried by a frontal attack. He therefore determined to try and turn his enemy's left, and accordingly

Operations from Dalton to Reseca. McPherson's flank march.

sent McPherson by a long detour through Ship Gap, Villanow, and Snake Creek Gap to attack Reseca, 18 miles in rear of Johnston's position at Dalton. This route, about 45 miles long, led through rugged defiles winding amongst great mountains. It is not known whether Johnston believed Snake Creek Gap to be a practicable route for a large column, but anyhow it was almost entirely unguarded. It was a wild and rugged defile, and the only road was a track worn by country carts in the bed of the stream or along the foot of the mountain. It was so shut in by forest that the sun only penetrated in it for a little while at midday. Apparently it was a place where Johnston with a small force might have inflicted a crushing disaster similar, but on a larger scale, to that which happened to us in the Khurd Khyber Pass.

On May 8th, while McPherson's flanking movement was in progress, Sherman distracted Johnston's attention by well delivered feint attacks on Buzzard's Roost, and generally along his whole front. On the 9th McPherson pushing on rapidly surprised a force of Southerners at the mouth of Snake Creek Gap, and arrived within a mile or two of Reseca. But thinking the place was too strongly held to be attacked, he withdrew to a good position at the western end of Snake Creek Gap.

Sherman, much disappointed at McPherson's failure to occupy Reseca then moved the bulk of his Army to join McPherson leaving only sufficient to continue the front attacks along Johnston's front. The deep valleys and forests west of Rocky Face Ridge enabled Sherman to move this large force unseen, and uninterrupted by the enemy. By sunrise on the 12th his Army was concentrated at the further end of Snake Creek Gap.

Johnston had known on the 10th that McPherson was in Snake Creek Gap, and that night sent part of his force to Reseca. On the night of the 12th, having evidently discovered or suspected that a far larger force was concentrating there, he evacuated his impregnable positions around Dalton, and moved the remainder of his force to

Reseca, so quickly and in such a masterly manner that Sherman had not time to strike him before he was safely behind the entrenchments which he had previously prepared around Reseca.

I think you will agree that the past has a valuable lesson to teach us here. I have shown you that this position of Johnston's before Dalton was about as strong as one can conceive. Sherman did not waste days and weeks, and men and money by knocking his head against it. He had no maps but he sought for a way to turn the position, found one, drew off attention from it, and suddenly, rapidly, and secretly marched some 80,000 men by it in rear of his enemy's impregnable position, thus rendering it and its elaborate entrenchments useless and untenable. One can generally find a way round if one looks for it, and looks far enough.

I have heard it argued that every flanking movement must eventually develop into a frontal attack, because the enemy, working on interior lines, will quickly face round to meet it. As a matter of fact this is just what happened, for Johnston did face round and force Sherman to turn his flank attack into a frontal one; but only because McPherson did not know the country and was unaware how few men he had to oppose him, and was also ignorant of the fact that a road existed by which he could have slipped past those few men and cut Johnston completely off from his line of retreat, and sandwiched him between Sherman's main army and himself. I am of opinion that given extremely mobile troops who can do a lot on little food which they can carry and cook for themselves, and who do not want bedding and luxuries of any sort, wide flanking detours are still possible which will end in a real surprise and a real flank attack which the enemy will not have time to meet as a frontal attack. But of course it will be essential to do as Sherman did and keep the enemy's attention fully occupied by well simulated frontal attacks, until the supreme moment arrives. In these few days, May 5th to 9th the Federals lost 837 men and the Confederates about 600.

Johnston's position at Reseca was as follows—General Hood on

Battle of Reseca, May 14th and 15th, 1864. the right was posted some two miles north of Reseca with his right flank close on to the Conasauga River. The line curved round to the westward until it finally rested south of Reseca on the Oostanaula River. General Hardee commanded the centre and General Polk the left. This defending force was posted in strong entrenchments on wooded heights for the most part, and the valley of a stream called Camp Creek lay in front of the centre for about two miles or more. A furious contest raged along the whole of Johnston's line on the 14th and 15th ending by Sherman's right and left flanks obtaining so decided an advantage that Johnston withdrew his Army on the night of the 15th and retired across the Oostanaula towards Kingston, 32 miles south of Reseca.

In this two days' battle Sherman lost some 3,000 men, killed and wounded, and Johnston about 2,500, and in addition 1,000 prisoners.

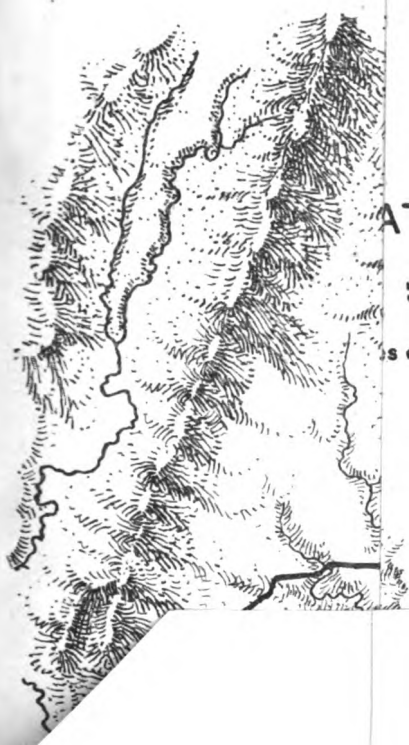
After the battle of Reseca Johnston retreated towards Kingston taking up a position at Adairsville. From the Oostanaula to the Etowah. When I say "retreated" you must not suppose there was any thing disorderly, or any undue hurry in the retreat. On the contrary, he continually presented a bold front to Sherman, and compelled that General to use caution as he followed. There was always the danger that Johnston might with his whole force fall suddenly on some weak point in the very extended front on which Sherman deemed it advisable to move. To give you an idea how extended his front was I may mention that he had not only sent Garrard with his cavalry down towards Rome to act vigorously on Johnston's flank, but he had also sent a Division under Davis to co-operate with Garrard.

As Johnston retired Sherman sought to attack him at Adairsville, and concentrated his Army for the purpose on May 17th. But Johnston slipped away and Sherman, on the morning of the 18th, was not a little embarrassed to find his enemy had disappeared. The reason why Johnston made no stand at Adairsville was that he was unable to find a position which could not easily be turned on its flanks.

Johnston retired so cleverly from Adairsville that he misled Sherman into thinking he had retired with all his force to Kingston. As a matter of fact Polk's and Hood's troops had retired on Cassville, and Hardee alone had gone to Kingston. Johnston's object in thus dividing his Army and misleading Sherman was this. He knew (and he was aware that Sherman was ignorant of the fact) that from the trend of the roads and the positions occupied by Sherman in front of Adairsville, the pursuing columns would be compelled to diverge rapidly, and become separated. He himself had a good road connecting Kingston and Cassville, and he thus hoped to rapidly concentrate at either town and fall with irresistible force on one or other of Sherman's isolated columns. By the afternoon of the 18th Johnston's plan had so far succeeded that Sherman's columns were more scattered than they had been yet. All the 19th was spent by the Southerners in making strong lines of entrenchments on a position near Cassville stretching along a line of commanding hills.

Now why did Johnston's plan fail for fail it did? Partly because he did not draw in Hardee's force to Cassville rapidly enough to enable him to fall with his whole Army on Sherman's left wing and annihilate it; and partly because he had a disagreement with some of his Generals regarding the suitability of the Cassville positions. So this well conceived plan failed partly through dilatoriness, and partly because the Commander had not sufficient strength of mind to stick to his own opinions.

Previous to the battle of Reseca Sherman had, as I have told you, sent Garrard's cavalry in the direction of Rome to try and cross the Oostanaula and operate on Johnston's flank. I also mentioned that he had subsequently sent a Division of infantry under Davis to co operate with the cavalry. Garrard, however, finding no bridges or fords, returned with his cavalry and crossed the Oostanuala at Lay's Ferry. Davis on the other hand continued his march to Rome and, after a sharp



MAP II. ATLANTA CAMPAIGN.

Scale of Miles.
1 2 3 4 5 Miles

Lines of march pursued by the separate Armies.

Army of the Ohio (Schofield) —
" " Tennessee (Mc. Pherson) —
" " Cumberland (Thomas) —



engagement, took the place on the 18th May. That was the day on which Sherman found Johnston had retreated from Adairsville. The capture of Rome was a most important event for Sherman. It was a considerable depôt for army supplies, and contained valuable factories and repair shops for ordnance. General F. P. Blair was at this time at Decatur with two Divisions of veterans, moving to reinforce Sherman. He was ordered to advance *via* Rome, occupy it with 2,000 men, set free Davis to rejoin Sherman, and then himself reinforce that General with the remainder of his force.

When Johnston retired from Cassville he crossed the Etowah River by the railway bridge, and occupied the high rocky hills facing north, ready to oppose Sherman as soon as his line of advance should be developed. Marietta, not far in Johnston's rear, now became his base of supplies while Sherman hurried up stores to Kingston and made it his advanced base.

The configuration of the country south of the Etowah decided Sherman to advance southward to Dallas, and then east to Marietta. In event of his meeting with stubborn resistance, his plan was to swing his left flank forward by the Burnt Hickory and Ackworth road, force Johnston back and establish himself on the railway as soon as possible. Accordingly on the 22nd May he moved his Army by various routes across the Etowah in the direction of Dallas; in such a manner as to avoid attacking the difficult Alatoona Pass. By the 25th Johnston's Army was in the following position ready to bar his way:

Hardee on the left across the Stilesboro, Dallas and Atlanta road, South of Dallas.

Polk in the centre prolonging the line northwards.

Hood on the right with his centre at New Hope Church, and his line covering the road from Dallas to Ackworth.

Johnston's line occupied a series of ridges covered with wood on their summits, but having open valleys in front, over which the attacking force would be compelled to advance without much shelter; the position was also strengthened by very solid entrenchments. Time

Battle of New Hope Church, May 25th, 1864. does not allow me to follow Sherman's advance closely but on the afternoon of

May 26th was fought the Battle of New Hope Church in a tremendous thunderstorm and drenching rain. Again and again, till darkness ended the combat, Hooker's columns assaulted Hood's position but in vain; it was too strong to be taken by direct assault; so, gathering up their dead and wounded, Hooker's men retired behind the ridge in their rear. And now followed a series of manœuvres, marches, skirmishes and battles the details of which would only confuse, though the study of them is interesting and useful.

Sherman soon found that his only chance was to turn one or other of Johnston's flanks; but owing to the nature of the country he found considerable difficulty in discovering where those

Combat at Pickett's Mill, May 27th, 1864.

flanks really rested. In his endeavour to find them part of his force ran against what was really a salient angle in Johnston's line, and suffered heavily. This was at a place called Pickett's Mill where the fighting was severe and very costly to Sherman, for on that day he lost 1,500 men.

The assault in the affairs of New Hope Church and Pickett's Mill is stated to have been made in columns of brigades or demi-brigades. I take this wording means or is equivalent to "mass of quarter columns" or "line of quarter columns." At any rate it is evident the attack did not take the form of a line of men in extended order, for the historian says* "The result in both cases demonstrated that in a difficult and wooded country, and especially against entrenched lines, the column had little if any advantage over a single line of equal front. It could not charge with the ensemble which could give it momentum, and its depth was therefore a disadvantage, since it exposed masses of men to fire who were wholly unable to fire in return."

The fact is officers of the American Army had, till the war broke out, been trained principally on the theories of a French book on drill and tactics. But it is strange that after so much fighting in the earlier part of the war we should still find in 1864 attacks on entrenched positions conducted in close formation. After these two combats at New Hope Church and Pickett's Mill troops were hardly ever again massed by either side for an attack, except at the attack on Kenesaw Mountain. The formation assumed was two lines, the second being only half as strong as the one in front which it joined with a rush when the front line needed help. Furthermore, from henceforth the Northerners, as soon as they had secured a position, would entrench themselves strongly by ditches and felled trees. It should be remembered that throughout this Atlanta Campaign, the entrenchments, particularly of the Southerners, were of a very formidable nature, and the fighting was of a desperate and sanguinary character. It is said that foreign officers visiting the Army often expressed their amazement at seeing the troops of the Line doing instantly, and without engineering assistance, what was elsewhere done by a corps of sappers under direction of a scientific staff. In the construction of the Confederate entrenchments the Georgia Militia were employed, and also negroes. Their entrenchments were often of an elaborate character.

Sherman, after the first few days, discovered that it was hopeless to assault this position of Johnston's. He therefore determined to concentrate a preponderance of troops on his left and try and turn Johnston's right. Johnston, suspecting this, made, on May 28th an attack on Sherman's right, accompanied by strong demonstrations all along his line. The attack, though made with great dash and courage, failed with a loss of about 2,000 men, though it delayed the removal of troops from Sherman's right to his left. The lines of both armies

* Atlanta, by Gen. J. D. Cox, page 80.

were in such close contact that the troops lived day and night under fire, and it was difficult for either side to move troops from one point to another without the other observing the attempt.

When the month of May closed the Federals (Northerners) had lost during the month 9,000 killed and wounded and missing; while the Confederates are calculated as being at least 9,480.

On the 1st June Sherman managed to occupy Alatoona with his cavalry, and took up a strong position in the Pass. On June 2nd he recommenced with vigour his attempt to turn Johnston's right, while the latter in turn moved troops to that flank to meet him. Sherman's men had to fight their way through such dense woods that they could not see the skirmishers who were only two hundred yards in their front, and the general direction of the advance could only be kept by compass. The result was that, without intending it, the skirmishing line on one occasion moved too much to its left, and uncovered the main attack. The Divisional Commander, perceiving a cessation of fire in his front, went forward on horseback with his staff to see what was wrong, and suddenly found himself within pistol shot of a Confederate picquet. This incident exemplifies the extreme difficulty and danger Sherman experienced in moving large bodies of troops through dense and tangled jungle. However, on June 4th he made such a successful attack on Johnston's right that the latter abandoned his whole line in front of New Hope Church, and retired to new positions which he had previously chosen and fortified. These new positions extended from Lost Mountain to Brush Mountain. The peaks shewn on the map as Brush Mountain, Kenesaw Mountain, Pine Mountain and Lost Mountain, are part of a continuous forest-covered chain, and form prominent features in the landscape. Kenesaw is 1,400 feet high. On these peaks Johnston had not only signal stations from which Sherman's camp could be seen and his movements noted, but batteries were also established on the summits; while on the spurs entrenchments, rifle pits, and other preparations were made for a desperate defence. Owing to reinforcements it is computed that Johnston had now some 78,000 men to defend this formidable position. As soon as Sherman found he had driven Johnston out of his New Hope Church position, he set to work to reach the railroad in front of Ackworth, and to bring supplies there from Kingston. The country roads by which he had brought his Army from that place were now, owing to the bad weather, deep in mud and impassable for carts. He sent word to Kingston to hurry up some reinforcements, saying he wished "to go to Marietta on Wednesday or Thursday." But many Wednesdays and Thursdays passed before Johnston's skilful defence was overcome and Sherman could enter Marietta. From June 5th to 9th Sherman's various corps were wading through mud, and taking up new positions for recommencing the attack,

whilst some 9,000 men arrived to reinforce him and made up for the losses he had sustained during May.

On the 10th the whole of Sherman's Army moved forward feeling for Johnston's position. McPherson's Army of the Tennessee, now transferred to the left, marched down the Ackworth-Marietta road and found the Confederates holding Brush Mountain in force with Noonday Creek running along their front.

Thomas (Army of the Cumberland) advancing in three columns marched straight towards Pine Mountain.

Schofield (Army of the Ohio) followed the general course of Alatoona Creek, and marched from Mount Olivet Church on the Marietta road towards Gilgal. Mount Olivet Church is also known locally as Hard Shell Church. I believe these so-called churches, called by biblical and extraordinary names, were merely meeting houses used by negro slaves for worship.

Johnston rightly interpreted the Federal advance to mean an attempt on his right. He therefore concentrated his infantry between Gilgal and Brush Mountain, while his right and left flanks were covered by his cavalry. But as soon as Sherman got the lie of the land he determined to operate in future by his right flank.

It is worth while glancing at the nature of the country through which he had to fight. In front of his left and centre the country was rough, and almost mountainous. On his right it was still hilly but less difficult; but the Confederate lines there followed the line of the watershed, and could only be approached by crossing ravines which were generally parallel to Johnston's front. The country to the east of Marietta was in some respects more favorable for Sherman and he at first thought of attempting an approach on that side; but he was deterred from doing so by the fear of exposing the railway line, his only line of supplies, to attacks by Johnston. He therefore, as I have already said, determined to operate by his right flank.

The drenching rain continued, and the country was well nigh impassable for troops, but on the 14th June, as there was a slight break in the weather, Sherman ordered his whole front to be moved up as close as possible to the enemy's works. On that day General Polk, the fighting Bishop, was killed on Pine Mountain by a cannon ball. And now continuous fighting began again, and Johnston was driven back from Pine and Lost Mountains to a previously prepared position behind Mud Creek. And then his right was pressed back and compelled to take up a new position nearer Marietta in lines which had been entrenched beforehand. He retired, as was his custom, during the night, leaving a strong line of skirmishers with supports in his old lines, to delay the advance of the Federals.

The key of this new position of Johnston's was Kenesaw Mountain, the sides of which were covered with dense woods and were broken into

The lines around Marietta.

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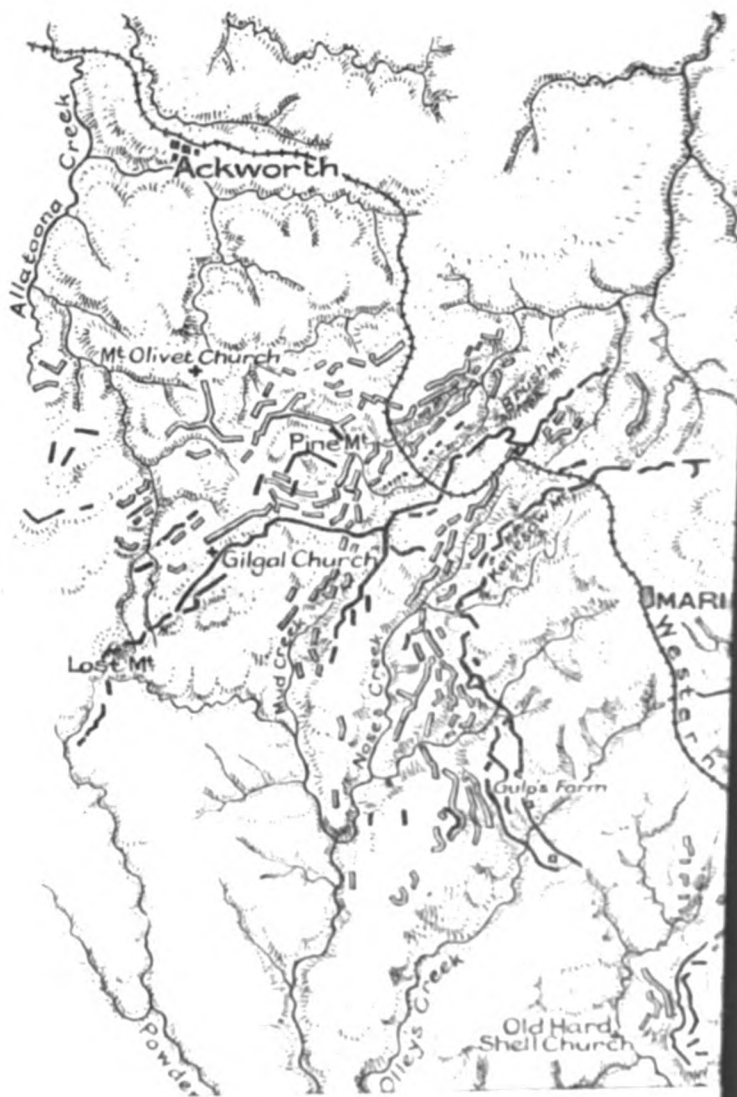
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, while from its summit such a view was obtained that
 ment on Sherman's part could be concealed; the creeks
 front were now swollen by rain to the dimensions of rivers.
 this new position Johnston's left had to swing back six
 his right retired only about two. These defensive lines
 etta were almost a semi-circle, facing west, and approach-
 to the town on the north. In front of the principal line
 than the usual number of lunettes and advanced works,
 and commanding hills, while the whole were covered with
 entanglements of slashed forest trees.

19th, Sherman knew of Johnston's retirement, and began
 ward in pursuit. But the difficulties were enormous; the
 ntry was a quagmire, no traces of roads remained, and
 quicksands abounded in the hollows. Fighting did not
 ever, and on the 31st Hood, one of Johnston's Generals,
 Culp's Farm, 21st June, sallied out and made a most determined
 attack, on part of Sherman's Army near
 Culp's Farm. The battle, as usual, was
 uinary and determined character, but resulted in the Con-
 being driven back into their entrenchments.

man now began to have difficulties about his supplies. John-
 ston was making vigorous efforts to
 destroy the railway in rear of his enemy,
 and for this purpose had often used
 es; so after a train had been blown up by these means
 n was forced to threaten that every train would be preceded
 filled with prisoners to test the safety of the line.

Federal centre was soon established in front of Kenesaw
 Mountain. Both sides expected that
 Sherman would try and turn one of
 on's flanks, but he made up his mind to attempt to carry the posi-
 y direct assault. His reason for departing from his usual plan
 flanking a position was that he considered that an Army, to be
 at, must not settle down to any one stereotyped method, but must
 pared to execute any plan likely to result in success. This is
 ory on which I would invite discussion at the end of this lec-

Sherman accordingly selected the left centre of his enemy's posi-
 s the point where he would push the assault home; more or less
 ous attacks being also carried on elsewhere. He selected this
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 t was heard far away to the left and rear. The "Boy's



deep ravines, while from its summit such a view was obtained that not a movement on Sherman's part could be concealed ; the creeks also in his front were now swollen by rain to the dimensions of rivers. To take up this new position Johnston's left had to swing back six miles while his right retired only about two. These defensive lines around Marietta were almost a semi-circle, facing west, and approached nearest to the town on the north. In front of the principal line were more than the usual number of lunettes and advanced works, on spurs and commanding hills, while the whole were covered with abatis and entanglements of slashed forest trees.

By the 19th, Sherman knew of Johnston's retirement, and began to push forward in pursuit. But the difficulties were enormous ; the whole country was a quagmire, no traces of roads remained, and dangerous quicksands abounded in the hollows. Fighting did not cease, however, and on the 31st Hood, one of Johnston's Generals, sallied out and made a most determined attack, on part of Sherman's Army near Culp's Farm. The battle, as usual, was of a sanguinary and determined character, but resulted in the Confederates being driven back into their entrenchments.

Battle of Culp's Farm, 31st June,
1864.

Sherman now began to have difficulties about his supplies. Johnston was making vigorous efforts to destroy the railway in rear of his enemy, and for this purpose had often used torpedoes ; so after a train had been blown up by these means Sherman was forced to threaten that every train would be preceded by one filled with prisoners to test the safety of the line.

Attacks on Sherman's line of
communications.

The Federal centre was soon established in front of Kenesaw Mountain. Both sides expected that Sherman would try and turn one of Johnston's flanks, but he made up his mind to attempt to carry the position by direct assault. His reason for departing from his usual plan of outflanking a position was that he considered that an Army, to be efficient, must not settle down to any one stereotyped method, but must be prepared to execute any plan likely to result in success. This is a theory on which I would invite discussion at the end of this lecture.

Sherman's change of tactics.

Sherman accordingly selected the left centre of his enemy's position as the point where he would push the assault home ; more or less vigorous attacks being also carried on elsewhere. He selected this point because he saw that a strong force pushed at that spot would probably penetrate as far as the railway below Marietta, and cut off Johnston's right and centre from their line of retreat.

On the 27th June he made a magnificent assault on Johnston's defences. The battle began on the right of the Federal (Northerners') line as was intended, but soon the roar of the engagement was heard far away to the left and rear. The " Boy's

Battle of Kenesaw, June 27th,
1864.

in Blue" advanced with the utmost intrepidity against the tremendous defences on Kenesaw; its ravines and batteries and entrenchments did not in any way appal them. They hurled themselves against them with unsurpassed gallantry, and although all order was soon lost, men struggled over felled tree trunks and interlaced branches, over rocks and rough ground tangled with undergrowth, exposed all the while to an awful cross fire, some of them forcing their way right up to the enemy's works, but arriving there so blown that they had not the strength to carry the parapets. The carnage was heavy, but to retreat meant certain death, so there they lay till nightfall in the trench they had won, or behind any available cover; then when darkness drew its friendly veil around them they entrenched themselves on the ground they had won, though for several days and nights they could only sleep with arms in their hands owing to their close proximity to the enemy. In that attack Sherman lost some 3,000 men and many officers, while Johnston lost but 500, and still held his position. It seems to me that Sherman's theory, above referred to, was applied under conditions distinctly unfavorable to its successful working. Moreover he again attacked in column formation. He had selected three points on which to deliver his assault. The centre one of these he attacked with two columns each having only a breadth of two companies; while those on the right and left had a frontage of a regiment in line. The forest, however, in many places grew close up to the Southerners' entrenchments, so that the attacking force found a certain amount of cover.

After this the weather cleared up, and Sherman was able to move the Army of the Tennessee to his right again in order to try and turn Johnston's left. This manoeuvre was successful and compelled the latter to evacuate his position.

On the night of July 2nd Johnston retired with his whole force behind the Nickajack Creek some six or seven miles south of Marietta. Again he had had entrenchments prepared beforehand in this new position. Sherman displayed the utmost activity in the hopes of catching Johnston's Army on the move, and was quite unaware he had an entrenched position of five or six miles in length behind the Nickajack Creek till he ran up against it. Johnston was too quick for him and was not to be caught on the move.

The monthly returns for June show that Sherman lost during that month in the fighting around Marietta 7,500 men. The Confederates admitted a loss of 4,000 men, but their estimate does not include those taken prisoners, of whom there were some 2,000. The cavalry losses are also not included. Johnston's line behind the Nickajack Creek covered the crossings of the Chattahoochee river by the railway, and two principal wagon roads leading to Atlanta. He sent Jackson's cavalry south of the river to defend the fords and ferries below his position, and Wheeler's cavalry to protect those above it. The nearest bridge in that direction was at Rosswell, 20 miles off. This

bridge Wheeler burned before the Northern cavalry could seize it, though they occupied the town and destroyed the stores found there.

Sherman of course soon saw that he could only turn Johnston's position by crossing the Chattahoochee river, and that was no easy task. The stream was at that time deep and rapid, and the fords difficult; but he decided to try and cross it at once so as to give his adversary no time to strengthen his position. Accordingly he sent General Schofield eastward to a ford which existed where Soap Creek runs into the river, eight miles north of the railway bridge. Schofield very cleverly succeeded in effecting a crossing by taking his men over in canvas pontoons, and surprised a picquet of cavalry and one gun placed by Johnston to protect this crossing. To give you an idea how completely this picquet of the Southerners was surprised I may mention that in their camp was found, not only a half cooked supper, but also an unfinished letter from one of the Confederate soldiers to his wife. In it he was telling her that she need have no fears for his safety for that he was now almost as free from danger as if he were at home. He had just written that the solitude about him was almost unbroken, even by the appearance of a single horseman on the opposite bank of the river. But his description of his absolute safety was suddenly and rudely interrupted by the unexpected crossing of Schofield's men, and the letter was never finished for the writer had to make a rapid strategic movement to the rear. During this turning movement Johnston's attention was distracted by feint attacks along seven miles of his front.

Under cover of these McPherson's whole force crossed the river at Soap Creek and also at a ford Garrard had seized near Rosswell, and thus Johnston's right was completely turned. On the night of the 9th July he accordingly withdrew behind his next defensive line, *viz.*, Peach Tree Creek.

His entrenchments there were as usual of a formidable character but he was not destined to defend them. His tactics in retiring from one defensive position to another created such dissatisfaction that he was deprived of his command on July 17th and Hood succeeded him.

If there is time after this lecture I hope that some of my hearers will take as a subject for discussion the wisdom or otherwise of this great Confederate leader's tactics. To me they recall Wellington's retirement on the lines of Torres Vedras. By retiring as he did Johnston lengthened out his enemy's single line of communications, and forced him to weaken his Army by leaving strong garrisons along this line. By his splendidly selected defensive positions he inflicted serious losses on his opponent, and wearied him by forcing him to incessantly make extended flanking manœuvres. He compelled Sherman to occupy and manœuvre over a great extent of country while he himself kept his Army together, retired in safety from one position to another

with infinite skill, and without so very much loss in guns and materiel. And all the while he was drawing Sherman on to a line of defences so formidable that he knew that that General would only knock his head against them in vain; defences that could not be turned. He reckoned that Sherman in assaulting these defences around Atlanta would become so crippled by losses, and so disheartened, that the chances were he would retire. Then he would follow up his retreating foe and destroy him. Or he would be able, behind the veil of his formidable works, to mass his forces at any given point, and make irresistible and crushing counter attacks. But I sincerely trust that some one more able than I am will discuss his tactics after the lecture.

It is thought I know, that Johnston's inferiority in numbers was such that he could not prevent Sherman's outflanking manœuvres. But was his force so greatly inferior? We must remember he was acting on the defensive and so, theoretically, did not require so many defenders at any given point as Sherman required assailants. At any rate he was deprived of his command just as his plan approached maturity; and Hood, who succeeded him, was ordered to drop defensive tactics and assume the offensive.

On July 17th Sherman's army, having crossed the Chattahoochee, was advancing in roughly the following order:—
 Sherman's dispositions on crossing the Chattahoochee.

The Army of the Cumberland on the right and right centre resting on the railway bridge.

The Army of the Ohio formed the left centre and was moving towards Decatur.

The Army of the Tennessee formed the left of Sherman's advance and moved on the Georgia Railroad between Decatur and Stone Mountain, striking and destroying it on July 18th.

On the 18th the Army of the Ohio occupied Decatur, and then Sherman began to swing his left round towards Atlanta. On the 19th there was heavy fighting on Peach Tree Creek between the Army of the Cumberland and the defending force, and the Northerners drove the defenders back. But Hood, the Confederate (Southern) General, discovered a weak spot in Sherman's line. This was where a division under Newton had been left in a somewhat isolated position on the road leading from Atlanta to Buckhead. It was occupying a prominent ridge, and had piled arms and made only very slight breastworks. So on the 20th Hood silently massed his troops under cover of some dense woods, and suddenly dashed one and, without waiting to send a skirmishing line in front of him, made a terrific onslaught on Newton. A tremendous struggle ensued and Sherman only avoided disaster by hurrying up reinforcements. After four hours of desperate fighting Hood was driven back with an estimated loss of 6,000 killed, wounded and prisoners. The Federals lost about 1,900. I think you will admit that this first attempt of the

Southerners to drop the defensive and assume the offensive was hardly a success. I said Sherman hurried reinforcements to Newton's aid. As a matter of fact the Brigade Commanders who were nearest did not wait for orders, but acted promptly on their own initiative and, hurrying up, joined in the fight. Hood's men were driven back time after time but always rallied and rushed on to the attack once more.

After the battle of Peach Tree Creek, July 19th onwards till September 2nd, the fighting was incessant, and not a day passed without combats on a larger or smaller scale. The heat too was intense. On the night of the 21st Hood withdrew from his outer line of entrenchments. His object was to tempt Sherman to make a rapid advance, and then suddenly dash out and attack any weak spots he might detect while Sherman's troops were on the move. Sherman did advance beyond the first line he had captured, and found Hood occupying a second line consisting of finished redoubts completely covering the approaches to the city. The Southern Army was busy connecting these redoubts with curtains strengthened by rifle pits, abattis and chevaux de frise. He therefore resumed his plan of attack on the east and north-east.

When Hood withdrew from his outer line he conceived and executed a bold plan. This was no less than to weaken himself by sending four divisions of Hardee's clean round Sherman's left flank in order to attack it in rear. Look at the map and let us try and grasp the magnitude of the daring feat that was attempted. Hardee marched his four divisions on the night of the 31st from their position two and-a-half miles north of Atlanta right through the city by a road west of Entrenchment Creek; crossed it low enough down to clear Sherman's flank; then turned north-east towards Decatur, and marched till the head of his column was within two and-a-half miles of that town. By the time he reached this spot it was a little after day-break, and he waited for his troops to close up and form, facing them north-west. But he appears to have delayed rather longer than was necessary. The total distance he had marched was but fifteen miles, but most of us know what a wearying thing a night march is. But think of the excitement and anxiety of this one, the object of which was no less than the turning of the flank of a superior and victorious army. As the men tramped along in the dark they could not but have been filled with hope that they were now going to reap a great success; how they must have anticipated the consternation, surprise and probable rout of the Federals who, instead of having an enemy in front of them, were really watching almost empty trenches, for many of the defenders of these same trenches had been withdrawn and were actually marching round their flank to attack them suddenly in rear.

The consternation and surprise were there but the rout did not come off.

Hardee's attack did not begin till noon, and I think Hood was right in afterwards blaming him for not being quick enough in dealing his blow. Had he attacked at the false dawn, as our Waziri neighbours do, the surprise and rout would probably have been complete. When Hardee did attack however he did so in a vigorous and gallant manner. The Northerners finding themselves taken in rear leapt over the parapets of their entrenchments and fought from the reverse side. The struggle that ensued is called "The Battle of Atlanta." Time does not admit of my giving you the details of this great fight, but it may interest you to know that many of Sherman's men were armed with repeating rifles; that there were bayonet charges delivered home; and that the fact of rifles being used did not prevent both sides from often coming to actual hand to hand fighting. The smooth bore guns fired spherical shot at times, and the rifled guns were double shotted with canister when driven to it by the fierce and determined charges made on the batteries by the Southerners; after they were driven back from a charge grape shot was used with terrible effect. The conflict was more than usually fierce and bloody, and continued till nightfall when Hardee, overwhelmed by the reinforcements Sherman hurried up, withdrew to a ridge between Sugar Creek and Entrenchment Creek, leaving 10,000 of his men dead, wounded or prisoners. The Federals lost some 3,500 killed, wounded

and missing and also 10 guns. Amongst the killed was the gallant General McPherson, the Commander of the Army of the Tennessee. Some accounts give 12,000 as Hardee's loss, and 10,000 is believed to be the very lowest computation. Such losses as these (some 16,000) incurred by Hood's two attempts to assume the offensive, go far to prove that Johnston's defensive tactics were the wiser. After the battle of Atlanta Sherman determined to work round the city and strike at the railroad to Macon, Hood's one remaining source of supply. He accordingly sent his cavalry to the number of 9 000 in two bodies to effect the destruction of this line. One body under Stoneman was to move round by the left on McDonough, some thirty miles south-east of East Point. The other under McCook by the right on Fayetteville, some twenty-eight miles in a bee line slightly south-west of East Point. Both columns were to meet on the railroad near Lovejoys some twenty miles as the crow flies from East Point. But Stoneman turned off the prescribed route and struck out for Macon without waiting to effect to a junction with McCook as ordered. The result was disastrous; he encountered a large force of the enemy moving northwards to reinforce Hood and was surrounded and compelled to surrender with heavy loss. McCook arrived at the rendezvous and did a certain amount of damage to the railroad, but not finding Stoneman there to co-operate with him, he was unable to cope with another large force of Confederates which he also came across, and so was compelled to retire. In this unsuccessful raid the Northern cavalry lost not less than 1,500 men, and the damage they did to the railroad was insignificant. Through Stoneman's foolish and culpable neglect of orders, the siege of Atlanta was protracted for another month.

Sherman attempts to strike the Macon Railroad. Cavalry raid.

Death of General McPherson.

Sherman meanwhile continued to prolong his investing lines further southward. Hood soon perceived that his intention was to strike at the southern railroads, and cut off his supplies and starve him into surrender. He accordingly planned another sortie, and on the 28th July he sallied out and tried to catch Sherman's troops on the move both in front and rear. The battle which ensued is known as the battle of Ezra Church. Hood was unsuccessful in this his third attempt to assume the offensive, and his loss on

Battle of Ezra Church, July 28th, 1864.
Losses incurred by the confederates. Change of tactics.

that day was not less than 5,000 men. Even President Jefferson Davis, who had recalled Johnston and had urged Hood to drop the defensive, was appalled at the losses (some 23,000 men) incurred by these three attempts to assume the offensive, and he wrote to Hood to discontinue his attempts. There is a negro proverb "some folks wont believe in a rotten rail widout settin on it"; Jefferson Davis had apparently verified it. After the battle of Ezra Church Sherman continued to push his lines still further south, while

Extension of Hood's line of entrenchments.

Hood continually met him with fresh formidable entrenchments. Hood's lines by about August 15th extended some 15 miles, and were prolonged southwards beyond East Point. His positions were so masked by hills and woods that Sherman could not with certainty discover his weak points. Hood had now an outer line of works on the west and south-west of Atlanta; then a second line consisting of redoubts with enormously thick parapets, connected throughout by a continuous infantry parapet well defended by obstacles. The inner line of works completely surrounded the city. Sherman at length saw that such lines as these could only be carried by a fearful loss of life. He therefore began to move the whole of his army on to the Macon railroad so as to starve Hood into surrender. But before doing this he placed a battery of four and-a-half inch rifled guns in position, and steadily shelled the city day and night to make Hood think he had settled down to a regular siege. Sherman's plan amounted to nothing less than this. He deliberately raised the

Sherman's master stroke.

siege, concentrated his whole force to the south of Atlanta, practically put his enemy between himself and his own line of communications, and used his force against Hood's communications instead of against his entrenchments. It was a bold stroke, and was rendered all the more hazardous by the fact that Hood had sent the greater portion of his cavalry northwards to attack and destroy Sherman's single line of rail. That General, however, moved his supplies by country carts, and by the 30th August the whole Federal (Northern) Army, with the exception of Schofield's Corps, was between the two rail roads which you will see by the map branch off at East Point. Schofield's Corps was about $1\frac{1}{2}$ miles from Red Oak station in the direction of East Point, and was covering the movements of the waggons conveying Sherman's supplies. Of course Sherman did not get into this position unmolested. As I have already told you there was almost daily fighting on a larger or smaller scale.

By this movement south the whole of the front of Atlanta was practically uncovered, and Hood jumped to the conclusion that Sherman was retreating across the Chattahoochee. He therefore once more, on August 31st, burst out on Sherman and attacked him in the vicinity of Jonesboro. The action did not last more than two or three hours, but resulted in a loss to Hood of about 3,000 men, while Sherman's troops, fighting behind breastworks, suffered comparatively little.

Hood now perceived that the game was up, and setting fire to his rolling stock, depôts and storehouses Hood evacuates Atlanta, and in Atlanta, blew up his surplus ammunition attempts to draw Sherman northwards, and evacuated the city. Having

collected his Army at Lovejoy Station on the Macon railroad, he made off, first in a southerly direction, and then, turning northwards, he marched right up to Dalton (where, you remember, the campaign had commenced) in the vain attempt to cut off Sherman's supplies and draw him after him away from Atlanta.

Surrender of the city. But all this is beyond the scope of the present lecture. On the 2nd September the Mayor of Atlanta formally surrendered the city to Sherman.

Thus ended the Campaign of Atlanta; a campaign full of interesting matter for all who will study it; a

Concluding remarks.

campaign which is one of the finest instances of a cleverly managed retirement on to a strong defensive position, and of an equally cleverly managed advance. The failure of Hood's sorties from Atlanta is not in any way to be attributed to want of courage on the part of the Southerners. The Northern chroniclers testify in a noble and generous manner to the intrepidity and dash of their Confederate opponents. General J. T. Cox, speaks of them as "an Infantry never excelled in tenacity and courage." I who have made the American Civil War my study, and have read many books on it, have come to the conclusion that there was nothing to choose in the matter of pluck between the Northerner and the Southerner. Both were full of the best and most soldier-like qualifications. Their ideas of discipline may be different to ours, but put them in the field with a real stiff job in front of them and they will do it or die in the attempt. I have noticed while reading the accounts of innumerable battles that attacks incessantly went on, even under unfavorable conditions, all day long until it was too dark even to die.*

The Hon'ble Major-General Sir Edmond Elles, K.C.B.

Ladies and Gentlemen,—I think it is but scant courtesy to dismiss a lecturer by merely mumbling a vote of thanks and so I propose to make a few remarks. I should like to inform Colonel Rundall that

* The Federal losses in this five months' campaign amounted to about 37,000, of whom over 5,000 were killed, and over 26,000 wounded. The loss of the Southerners is computed at not under 45,000.

we greatly appreciate his lecture and that we have endeavoured to take an intelligent interest in it and to learn something from it. He will, however, I am sure, recognize, that we are all very busy men and that we have little time for studying a large subject like this, and that consequently there will probably be some reluctance among the audience to discuss it.

Colonel Rundall has, however, invited discussion on a few points, the main being—

The strategical conduct of the campaign.

Was Johnstone right in assuming the rôle he did?

The second point is in regard to frontal attacks.

It may seem presumtuuous in us to attempt to criticize the giants of the American war, but we may do in all humility, just as at the Staff College we attempt to criticise Wellington and Napoleon with a view to learning some thing; of course if they had the prescience to know beforehand what they did after the event, things might have been quite different. If I was asked to say what Johnstone did wrong and why he was removed, I should reply that he assumed rather the rôle of a rear-guard instead of a defending force, and conducted a series of rear-guard engagements rather than defensive operations?

May I explain my meaning?

If Johnstone had had only 30,000 men, and his force had been a rear-guard endeavouring to delay the enemy whilst the main army was being retired on to Atlanta, or on to reinforcements in view to fighting a general battle on equal terms, his action would have been magnificent, and he would have been right in avoiding engagements and merely delaying the enemy by every method in his power without seriously committing himself, but let us see the facts: he had 75,000 against Sherman's 100,000, and he was the main defending force to prevent Sherman penetrating to his base Atlanta, seizing it and cutting off its railway communication in all directions. Was his action of delaying the advance only to retire on Atlanta and shut himself up in an entrenched position likely to attain his object? I say emphatically "no." Our experiences in war since then show us Metz and Plevna were disastrous and that defence at Atlanta could not prevent the Federals gaining their object.

It appears certain that his programme of retiring before his superior enemy and that the preparation of carefully entrenched position gave him an enormous advantage but he failed at the critical point. His rôle of drawing on the enemy, lengthening his communications, forcing him to weaken his army by detached posts, and flanking forces was quite sound but all this should have been with one object, *viz.*, to seize the psychological moment and take his enemy at a disadvantage when either owing to the configuration of the country or divergence of the roads Sherman's armies were separated and could not well combine for battle. A Wellington or a Napoleon would have found that moment. A Johnstone failed to do so.

With regard to what the lecturer said concerning Wellington, I venture to disagree with him, as Torres Vedras was an impregnable

position, where both flanks rested on the sea and so nothing could be done against him, in the case of Atlanta the enemy could get behind Johnstone.

There seem to have been four distinct occasions on which Sherman may have given Johnstone such a chance as I spoke of.

1st.—In the Dalton position when Macpherson was separated.

2nd.—In the Kingston Cassville position.

3rd.—In the Kenesaw position.

4th.—In the Nickajack creek position.

On all these occasions there seem to have been openings for holding a line with say $\frac{1}{3}$ rd the force throwing 50,000 men against separated portion of Sherman's army. The armies were not so disproportionate as to render such action impossible, and the strength of the proposed position more than equalised the forces.

At Kenesaw he had 78,000 men, and it is doubtful whether Sherman had much more as he was holding his communication and Ackworth as his advanced depôt.

The 2nd point is the question of frontal and flank attacks. I think the general opinion is that the former are unjustifiable except under special circumstances, such as:—

(1) Attack on a position with one or both flanks secure.

(2) When there is an object and it is imperative to seize a position before the enemy can re-inforce it—*e.g.*, an advance guard position.

(3) When the front is very extended and the defence weak.

In regard to flank attacks: I think we will all recognize that in the present day they must to be successful and not develop into frontal attacks—

(1) be made by movements out of view of the enemy;

(2) partake of the nature of a surprise.

General Wolfe-Murray—Asked the lecturer why at Atlanta General Hood should have attacked General Sherman's left flank in preference to the right. Had he attacked the latter flank he was of opinion that far more serious results would have ensued.

Colonel Rundall—Explained on the map that the position all round the flank was open.

No further questions having been asked:—

General Elles—Proposed in the name of the audience a vote of thanks to Colonel Rundall for his interesting lecture.

SCHEME FOR A CORPS OF NATIVE MOUNTED SCOUTS.

BY CAPTAIN J. M. WIKLEY, 17TH BENGAL LANCERS.

Object of the scheme.—As organised at present, an army in the field gains its information by—

- (a) spies,
- (b) patrols and scouts.

(a) Spies as a rule are natives of the country in which operations are being carried on and are probably uneducated men. They possess no knowledge of reconnoitring work, of field sketching or of reporting. Their information is verbal and what they report has to be thoroughly sifted. They cannot always be relied on or trusted.

(b) Patrols and scouts may furnish intelligent reports and sketches of an enemy who is in the immediate vicinity, but they are unable to work at any useful distance from the main body, and the information they may gain is not transmitted rapidly enough. They could not well be employed in any enterprise which would entail their being cut off from the main body for more than a couple of days. The proposed corps of scouts would not replace either (a) or (b) but their scope should be greater than (b) and their work not only be more satisfactorily performed but the intelligence gained transmitted with greater rapidity. In comparison with (a) their work would be more reliable, their reports contain more useful information and there would be no doubt of their loyalty.

It is well understood that for any hazardous enterprise with the object of gaining important information at a considerable distance from the army, well mounted officers with one or two selected men have frequently been employed with satisfactory results; this appears only to emphasize the fact that there should always be a body of highly trained men, capable of starting off, at short notice, on similar enterprises. The scheme aims at producing such men.

Distribution.—A troop of scouts would consist of 50 non-commissioned officers and men with their British officers. In this would be included one Kot Dafadar and one writer.

The troops would be further divided into four sections, each consisting of non-commissioned officers and ten men.

The troop would be under the immediate orders of the General officer commanding any considerable force, and sections might be detached for service with a brigade of such a force. Sections should be kept intact, as this is the least number which can act together satisfactorily for the transmission of information over long distances.

In no case would scouts be employed singly, they should always act in pairs.

Manner in which employed.—The following may be taken as an example of the manner in which the corps of scouts would be employed and the system on which they would work.

It is supposed that the railway and telegraph lines from Rawal Pindi to Attock are not available.

The General officer commanding at Rawal Pindi finds he requires full details of the ferries over the Indus at Hund and Pihoor, the information is required as soon as possible. The most important items on which he requires immediate information are: (1) the number of ferry boats at each ferry and the average carrying capacity of the boats; (2) whether the boats are capable of transporting field artillery; (3) whether the enemy (supposed to be holding Nowshera and Hoti Mardan) has shown any signs of his presence at either of the ferries.

At 6 A.M. on the 1st March the Officer Commanding scouts is sent for and is informed of the General's requirements.

By 7 A.M. his arrangements are complete and his scouts have started. The distance the scouts have to travel is roughly as follows :—

Rawal Pindi to Jani-ki-Sang	...	...	...	14 miles.
Jani-ki-Sang to Hassan Abdal	...	...	...	16 "
Hassan Abdal to Hazro	...	...	...	16 "
Hazro to Hund Ferry	...	...	...	4 "
Hazro to Pihoor Ferry	...	...	...	15 "
Total to Hund	...	50 miles		
" " Pihoor	...	91 "		

At 10 A.M. on the 2nd March the following information is handed in: "Five ferry boats at Hund, average carrying capacity 400 maunds, unfit for field artillery, but would be made fit with skilled labour; materials at hand. Patrols of enemy reported to have visited Hund on 28th February."

At 11-30 A.M. the other report is handed in: "Four ferry boats at Pihoor, unfit for field artillery, could be made fit; no material at hand; average carrying capacity 400 maunds. No signs of enemy reported."

The full report and sketch of the Hund Ferry is handed in by 4 P.M. on the 2nd, and that of Pihoor by 7-30 P.M.

The method of working is as follows :—

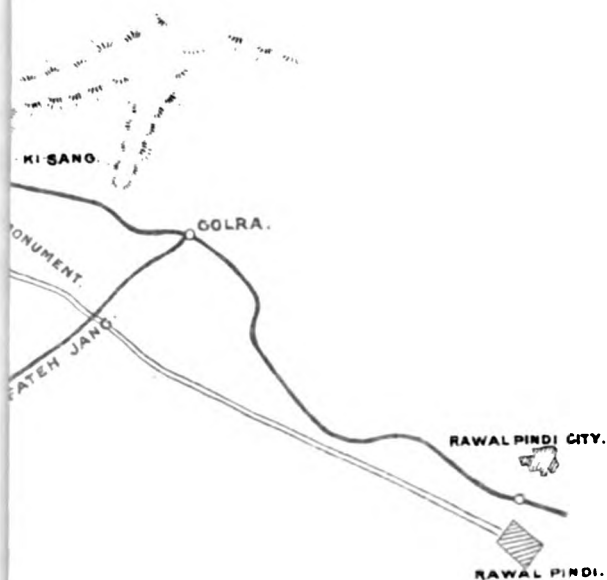
10 non-commissioned officers and men proceed from Rawal Pindi at 7 A.M. to Hazro, arriving there at 8 P. M. on the 1st March.

4 men to Hassan Abdal and 4 to Jani-ki-Sang, total 18 men.

At 4 A.M. on the 2nd March 2 scouts proceed from Hazro to Hund which they reach at 5 A.M., having to cross the river. By 7 A.M. they have gained all the information required and made out the report on



1 E FOR A CORPS
ED SCOUTS.



the ferry. They ride back to Hazro and reach it at 7-30 A.M. From Hazro the urgent information is signalled to a signalling station established at Kibla-i-Vandi (Sq. R. 22 of map of country between Attack and Rawal Pindi west section). It is signalled on from there at 8 A.M. to Hassan Abdal (signalling station on the Ziarut hill), from Hassan Abdal to hills above Nicholson's Monument at 8-30 A.M. and into Rawal Pindi, 9 A.M. The report is despatched from Hazro 7-40 A.M. to Hassan Abdal; it is carried on from Hassan Abdal at 10-30 A.M., reaches Jani-ki-Sang at 1-30 P.M., is carried on into Pindi by 4 P.M.

At 3 A.M. on the 2nd March four scouts proceed to Pihoor, two look out for and establish signalling communication with Kibla-i-Vandi, two go on to Pihoor which they reach at 6 A.M. They gain all information and finish report by 8 A.M. One scout rides into Hazro with reports; he reaches Hazro at 11 A.M. This report is carried on to Rawal Pindi and gets there by 7-30 P.M. The other scout finds the signalling station by 9 A.M., the urgent information is signalled *via* Kibla-i-Vandi, Hassan Abdal and Jani-ki-Sang into Rawal Pindi by 11 A.M.

(It is taken for granted that the signalling stations mentioned could establish communication with one another; the doubtful stations are the one the Pihoor scouts make use of, and Kibla-i-Vandi, the other, it is pretty certain could be used.)

A scheme for a corps of native mounted scouts.

- I. Argument in favour of.
- II. Possible objection to.
- III. Composition—
 - (a) Strength and class of man;
 - (b) How raised;
 - (c) Locality
- IV. Equipment—
 - (d) Arms and accoutrements;
 - (e) Implements and instruments;
 - (f) Uniform;
 - (g) Camp equipment.
- V. How mounted—
 - (h) Horses;
 - (i) Baggage animals.
- VI. Training.

I.—Argument in favour of—

I. A system of scouting as indicated in the preceding pages, by which reliable and intelligent information of an enemy's intentions and movements can be obtained and which is capable of transmitting such intelligence rapidly, would be of the utmost value.

Such a system can only be obtained by educating men individually to be scouts, selecting only such men whose physique, education and general aptitude give promise of their becoming intelligent scouts; then training them to work collectively for the rapid transmission of the information they may have gained.

To reach the required state of efficiency as scouts, men should be trained for this purpose only and should be scouts and nothing else. Five or six hours a week for a few weeks or even months in the year is not sufficient training. The training should be continual, on a systematic plan and under thoroughly capable instructors.

To keep those faculties which are required by a good scout in perfect order, they require to be continually exercised.

During peace the native cavalry soldier has his time fully occupied by regimental and station duties, musketry and various drills and it is possible to devote only a few hours in the month to his scouting duties. This may be sufficient to teach him the rudiments of this important duty but not to make a trained scout. This difficulty can be overcome to some extent by having regimental classes and striking men off other duties for the purpose.

II.—Possible objections.

There are many objections to this plan.

1. The difficulty of finding thoroughly proficient instructors.
2. The course could not well last longer than three months, as it would interfere greatly with other regimental work and leave. Three months is not considered sufficient.
3. The difficulty of making the men keep the knowledge they have gained and of having them continually practised.
4. The course could not well take place during the winter as every available officer and man is then required for squadron training, field days and manœuvres. During the summer it is not possible to keep men and horses out all day as would be required by a thoroughly sound course of instruction.

On the other hand, the proposed scheme would eventually ensure the supply of reliable instructors for regimental scouts and would provide a systematic method of training.

It may be urged in objection to the scheme that the training of regimental scouts will deteriorate and that on service troops will begin to rely too much on the corps of scouts and not on their own scouts.

The remedy for this lies with inspecting officers.

III.—Composition.

The strength for the first year of training and until it is seen how the scheme works, should not exceed 50 non-commissioned officers and men with 2 British officers as instructors.

The strength of British officers may seem excessive, but when the scheme of instruction is reviewed and the amount of instruction which each man should receive, is considered, it will be seen that this

number cannot well be decreased until the corps itself can provide a sufficient number of good native instructors.

As the more important work of the corps will in all probability be on or beyond the North-West Frontier, the corps should be entirely Muhammadan. For this reason too it would be advisable to select men from the various tribes on the frontier, men being especially chosen for the tract of country they are acquainted with.

(b) How raised, and inducements. Volunteers from native corps to be called for and from these a selection made personally by the two British officers.*

Should the inducement of a slightly higher rate of pay not be sanctioned, it is thought the following advantages may entice volunteers :—

1. A less expensive uniform (than native cavalry) and hence a smaller recurring expenditure to keep it up.
2. The exemption from station orderly duties, and few regimental guard duties.
3. The larger opening for distinction and advancement to capable and hard working men.
4. Liberal leave after thoroughly mastering his profession, with inducements to travel and report on various portions of the frontier (or other countries) while on such leave.
5. In any case the pay of the non-commissioned officers should be in excess of the rates for the same ranks in the native cavalry.

Both officers and men should be as light as possible and of active habits, with a strong inclination for field sports.

As hard physical work for both men and horses will be required, for their training, throughout the year, a locality in which this is possible should be selected.

IV.—Equipment (weapons).

As the *raison d'être* of the scout is to gain information without himself being seen or his presence suspected, and as he will only be called on to fight in his self-defence (which in the case of a few men pre-supposes fighting at close quarters) his weapons should be on his person and should in no way interfere with his movements either on foot or on horseback. For this purpose a powerful revolver is sufficient. But as a knife or cutting weapon is always necessary, to the man who

(d) Arms and accoutrements. has to feed himself and his horse; and occasionally to provide himself with some kind of shelter, a weapon should also be carried which in case of need could be used effectively and would at the same time be useful in other ways. For this the one-edged working *dah* as used by the Assam and Chittagong tribes would be suitable.

* The selected native officers and non-commissioned officers and men to be seconded in their regiments. The corps to be on the silladar system.

Time and trial would show the most suitable kind of belts to be worn. Some pattern which would carry the heavy revolver on one side, the *dah* on the other and a pouch for a few rounds of revolver ammunition would be required.

A strong saddle of the ordinary "hunting" pattern and of such simple construction as to allow of the stuffing being readily altered.

Saddlery.

Food, extra clothing, etc., which have to be carried on the horse, to be carried in capacious saddle-bags

A single bit of the Pelham variety is recommended.

In place of girths and surcingle, one strong surcingle should be quite sufficient.

(e) Implements and instruments. Each pair of men would carry between them—

1. A reliable watch.
2. „ „ compass.
3. A powerful telescope.
4. A small heliograph (or other signalling apparatus).
5. Each man a large pocket book and pencil.

The pattern would be finally decided when experience had shown what was most serviceable. The colour would naturally be some knaki shade.

(f) Uniform.

The material woollen, strong but not too thick. When hot the coat need not be worn.

As the men will be required very often to cover long distances on foot (for concealment and to save their horses) each man should wear what suits

Foot gear.

him best. Chaplis are recommended, the Baluch pattern most of all, the stirrups would accordingly have to be very wide in the tread. For extreme cold, strong leather socks (well oiled) with thick woollen ones, worn inside them.

For cold and wet weather and as part of the equipment to be carried on the horse, there should be a strong waterproof cape with hood, of the lightest variety of Wellesden canvas (this is now made in the natural colour of the canvas); also a thick sweater.

Capes.

One tent for each pair of scouts; when on scouting expeditions this would naturally be left behind.

(g) Camp equipment.

Each man would carry a light (aluminium) cooking utensil; of these there are many suitable varieties.

Cooking utensils.

V.—How mounted.

The height and looks are unimportant. Anything between 13-1 and 14-3 should do. What is required

(h) Horses. is a strong cobby animal with good legs and feet and of a hard constitution. Animals which do not require

shoes would be valuable, and shoes would be dispensed with as much as possible. Animals varying in height between 13-1 and 14 hands and again between 14-1 and 14-3 are at present not much in demand.

As to colour, there should be no objection to any colour except white and very light greys. Greys, duns and skewbalds should be useful. Greys are not always conspicuous and in some countries are less so than the darker colours.

The above considerations might allow of the "Horse price" being less than that of other silladar corps. In any case the class of animal required could be more easily obtained and at less expense.

Should the price of mules be considered prohibitive, the Kashmir baggage pony provides an excellent substitute.

(i) Baggage animals.

As the mobility of the corps is of extreme importance and as it would generally have to be independent of the Supply and Transport Department, one baggage animal should be allowed for each pair of scouts.

VI.—Training.

The course of training would include :—

1. Scouting as explained in General Baden-Powell's "Aids to Scouting."
2. Map reading and rough eye-sketching.
3. Reporting.
4. Transmission of intelligence.
5. Travelling on a bearing by day or night.
6. Signalling.
7. Revolver practice, on horseback and on foot.
8. Care of man and horse.
9. Education of horse.
10. Swimming and passage of rivers.
11. Saddle fitting.
12. Demolitions.

Considering the above in detail—

1. That portion of the "Aids to Scouting" which deals with tracking and reading signs would be carefully taught and practised, but every man has not the necessary qualifications to become perfect in this which is really the study of a lifetime. A few men who are practically professional trackers should be enlisted : good men of this stamp are to be got from the Shahpur District.

2. Map reading and rough eye-sketching. The "Instructions in Field Sketching and Reconnaissance" would be very thoroughly taught. Each man would learn how to measure distances by the various paces of his horse.

3. Reporting. The information which should be contained in all reports. The expedients for measuring the depth, breadth and rate of current of rivers, the capacity of springs and streams for the supply of drinking water, rough calculation of the amount of fodder in hay-stacks, etc., etc.

4. Transmission of intelligence.

A corps system of signals, by day or night and by sound, also the adaptation of connecting posts, would be established.

5. Travelling on a bearing by day or night.

It is essential that each man should know how to guide himself on a compass bearing by day and by the stars at night.

6. Signalling.

Each man would be taught how to signal and how to read signals, but it is proposed that either the heliograph or the semaphore system be utilised to signal in Hindustani. It would be impossible to get men with such a knowledge of English that signalling in English would be intelligible to all, and it is of great importance that whatever is signalled by one member of the corps can be readily understood by all the members of it.

Also, as already pointed out in (4), there should be certain sights and sounds by night, the meaning of which could be intelligible to all.

7. Revolver practice.

As the revolver is practically the only weapon the scouts would have, they should be extremely proficient with it either on foot or on horseback.

8. Care of man and horse.

The men should know how to take care of themselves and the simple remedies for sudden emergencies. They should know how to shoe their horses and for this reason no farriers would be kept, each man having to shoe his own horse on all occasions.

9. Education of horse.

This would include training the horses to stand, without being tethered, to lie down (for concealment), to be steady when fired from and to amble.

10. Swimming and passage of rivers.

Every scout should know how to swim and no ordinary river should be an obstacle to him and his horse.

11. Saddle fitting.

Each man should know how to detect the causes which may make his saddle not fit properly and the remedies. He should also know how to alter the stuffing so as to relieve his animal's back should it become galled in a very long expedition, and when it is impossible to give it rest for a considerable time.

12. Demolitions.

A knowledge of the more simple means of interrupting telegraph communications, of obstructing railway tracks and of destroying smaller culverts and bridges, would be useful. A couple of men who know what to do and who act at a very considerable distance from the nearest known portion of their own army, could cause great inconvenience and some uneasiness to an enemy.

THE GROWTH OF THE MILITARY POWER OF JAPAN.

BY CAPTAN H. W. R. SENIOR, P.S.C., 20TH (D.C.O.) PUNJAB INFANTRY.

Fifty years ago, Japan, except for a small Dutch settlement, was almost entirely closed to foreign intercourse. The Emperor, the Mikado, the 120th of his line, a ruler by "divine right" as a descendant of the gods "in sublime impotence but with undisputed majesty" lived at Kioto the life of a recluse. His power for more than two centuries had been usurped by the families of the great northern clans and was then held by the Tokugawa. The head of this family under the title of Shogun, that is generalissimo, lived at Yedo, now called Tokio. This curious arrangement is paralleled in the present day in Nepal, where the descendants of the Prime Minister Jang Bahadur govern as they please, nominally in the name of the Maharaj Dhiraj, the King of kings. In Japan the existence of the Shogunnate gave rise to the old fiction that the country was ruled by two Emperors, a spiritual, the Mikado, and a temporal, the Shogun or Taikun. The country was divided into numerous feudal fiefs, which were ruled by semi-independent chiefs called Daimios.

As a pledge of good behaviour these Daimios, some 268 in number, were compelled to keep their wives and families at Yedo and to visit the Shogun there once a year. The armed feudal retainers of these chiefs formed a special military caste under the name of Samurai. They were the army of Japan, and numbered about 2 millions. So late as 50 years ago they wore curiously fantastic suits of armour, and fought principally with two-handed swords and bows and arrows.

These Samurai formed also the official administrator class.

Some 150 families of Kugé, offshoots of the Imperial Family composed a hereditary aristocracy, who were, however, without wealth, power or real influence.

About 30 millions of agriculturists, traders, and artisans, called generically the "Heimin" composed the bulk of the nation. They were practically serfs, and were only recognised for the purpose of paying taxes.

In 1853 Commodore Perry of the United States Navy delivered a letter, demanding the opening up of the country to foreign trade.

In February 1854 he returned with a fleet of nine steamers, which the Japanese looked upon as "harnessed volcanoes," and obtained a treaty opening three ports to American trade. He was promptly followed by Admiral Stirling who obtained a similar treaty on behalf of England. The other European powers followed suit, and the process of treaty-making went on, ending in the opening up of 10 ports to foreign trade. These treaties had been concluded with the Shogun who had usurped the title of Taikun or temporal Emperor,

As knowledge of the country increased, the diplomatists, so to speak, discovered the Mikado, who, however, refused to ratify the treaties and ordered the closing of the ports.

The three great southern clans of the Sat-cho-to (*i.e.*, the clans of Satsuma, Choshu and Tosa) had in the meantime utilized this admission of foreigners to raise the cry of Japan for the Japanese. Aided by the popularity of this cry, they intrigued for the restoration to full power of the Mikado, and for the downfall of the Shogunate held by the northern clan. The revival of Shintoism with the deification of the Mikado as its principle article of faith, and the publication of the old history of Japan, which brought home to the people that the power of the Shogun was really an usurpation of the Mikado's rights were factors in the spread of their revolution.

In 1862 the Daimio of Satsuma Shimadzu Saburo went to Tokio with a large following to try and get the order, compelling his family to live there, cancelled. In this he failed. On his return homeward his retainers murderously assaulted a party of three Englishmen and one lady on the main road called the Tokaido. An English fleet consequently bombarded and destroyed Kagoshima, the capital of the province of Satsuma.

About this time also the Daimio of Choshu fired on foreign vessels passing through the straits of Shimonoseki, which led to reprisals, and the complete destruction of his forts by French, Dutch and American men-of-war.

The Shogun hoped that the punishment inflicted on Satsuma and Choshu would weaken the influence of these clans, who he knew were intriguing for his overthrow. The real result of foreign action was, however, to convince all thinking Japanese that the only hope of meeting the foreigner successfully was to do away with the present divided rule and to show a united front under the Mikado.

In 1865 the Shogun succeeded in convincing the Mikado that the foreigner was too strong to be resisted and in obtaining the ratification of the treaties.

At the same time, seeing the necessity of securing his power by the advantages which drill, discipline, and good arms would give his own feudal retainers over the revolutionary party, he applied to the French Government for assistance. Thus in 1866 the first French Military Mission came to Japan. One of the officers of this mission was Captain Chanoine who, as General, became War Minister of France in 1898. This mission established schools of instruction for infantry, cavalry and artillery, and built an arsenal and dockyard at Yokosuka near Yokohama, their work was, however, interrupted by the Revolution, which broke out the year following, compelling the mission to return to France.

The Revolution of 1867 was the real commencement of Japan's development. The present Mikado, Mutsuhito, then a lad of 17 years of age, had just ascended the throne. He sent a remarkable letter to the Shogun claiming from him the abdication of the powers usurped by his predecessors.

The Shogun at once issued a proclamation to his adherents, in which he said : "It appears to me that amidst the daily increase of foreign relations the laws cannot be maintained unless the Government be conducted by a single head : for this reason I am ready to give back the supreme power into the hands of the Imperial Court. This is the best I can do at this moment for the welfare of the Empire."

On the 19th November 1867, the Shogun sent the resignation of his office to the Mikado. The southern clans thus came into power as the supporters of the Imperial Court. Although the Shogun himself had resigned his adherents were not willing thus easily to surrender all their advantages, more especially as the Mikado was forced by the southern clans to sequester their revenues. A bloody civil war, called the War of the Restoration, resulted. The Shogun himself soon retired from the conflict, but his followers fought on till October 1868 ; while his fleet based on Hakodate in Yezo did not surrender till 1869.

The Imperial General was a Samurais of the Satsuma clan named Saigo Tukomori. His success in the conflict against the northern clans brought him into great prominence. As a statesman he saw that the Mikado's Imperial powers must rest on something more solid than the veneration of his descent from the Sun Goddess. In March 1869 he succeeded in inducing all the Daimios to voluntarily surrender their revenues and fiefs to the Mikado ; receiving them back at his hands, as rulers appointed by him.

A regular Imperial force was now formed principally from the Samurais of the Sat-cho-to and trained on European lines. This force, the beginning of Japan's modern army, consisted of nine battalions of infantry, two squadrons of cavalry and eight batteries of artillery.

The anti-foreign agitation having served its purpose in the destruction of the Shogunate and the restoration to power of the Mikado, was now sternly repressed. A commission was sent out from Japan to all foreign countries in 1869 to enquire into the best system of national defence, the best system of education, and the best religion. On its return the commission reported the French military system, the British naval system and the American system of education to be the best. They stated, however, they found no civilized religion to be worth adopting !

On August 29th, 1871, an Imperial decree abolished the Daimio rule absolutely, but granted them pensions equivalent to one-tenth of their former revenues. In their place State-appointed prefects carried on the government of the country. The quiet acquiescence with which this mediatization was accepted by the former feudal lords surprises the reader of Japanese history greatly. But the fact was that in older times the Daimio had the trouble of collecting his revenues, while the portion which finally remained to him, after his retainers were paid, was often less than the tenth now allowed him by the Imperial Government. So much for the money ; as for the power which they were supposed to wield, the Daimios for the most part were mere puppets in the hands of their abler Samurais

councillors, so that they felt no loss in the withdrawal of a nominal power, while they were saved from the odium, which often fell on them owing to the acts of their retainers. As for their Samurai councillors, these for the most part succeeded to the nominal as well as the actual rule of the provinces, and though in many cases they suffered a certain monetary loss, this was amply compensated for by the feeling that they had risen from provincial to be Imperial officials. The only Daimio who objected was Shimadzu of Satsuma, and the Mikado accompanied by the Satsuma General Saigo paid this prince a visit, but did not succeed in reconciling him to the change. He, however, did not do more than voice his objections.

The process of the assimilation of western civilization continued, many of the special privileges of the Samurai were abolished. The old marriage limitations between the different classes of society were also abrogated. Enlistment in the Imperial army was thrown open to all ranks. The Gregorian calendar was substituted for the old Chinese reckoning. The practice of shaving the top of the head was abolished by Imperial edict!

Some of the most conservative Samurai broke into revolt at these innovations, but the risings were easily put down by the European trained army now 15,000 strong, detachments of which concentrated by the aid of the newly erected telegraph were quickly transported to the scenes of disturbance in steamers. Meanwhile in May 1872 the second French Military Mission reached Japan and commenced its labours in the organization of the army. Their work was largely swept away in the "Prussification" of the Japanese army which occurred some years later. Its permanent results now remain only in the head-dresses of the Japanese officers, the red trousers of their cavalry, and the thin lines of braiding denoting the differences of rank.

In this year also the first Japanese railway between Tokio and Yokohama was opened, the gauge used was 3 feet 6 inches. The carriages were made very narrow, so that it was found in the mobilization of 1894 against the Chinese that horses could not be put athwart on the carriages. This defect caused much loss of room. I have not been able to discover whether it has been remedied. By 1910 all the railways now built or building will be State lines.

On the 5th November 1875 the Mikado published an epoch-making decree declaring Japan to be under the law of compulsory universal service. The preamble of this decree declared: "In the old times of the Monarchy, during which my forefathers ruled Japan absolutely, there was no difference between the army and the citizens, because every man was a soldier. This honourable duty must again be called into life. Although in later times despotism has grown apace and in the interests of a few has separated the army from the people, I cannot now allow such a misuse of authority to go further, and must turn all my strength to alter this. The feudal system of government which I have altered, has given the land many unjust and useless laws which my duty calls me bit by bit to alter. The system of recruiting till now in use, for example, is due to one such law, which is opposed to the aim of my Government, to the spirit of the times and to European

organisation, and therefore calls for an alteration which is contained in these words, 'In future the army shall represent the whole land'."

Thus compulsory universal military service was introduced and the country divided into seven military districts. Each district except the VIIIth was intended to support a Division with a Guard Division recruited from all the districts. The VIIth district, the Island of Yezo, with the Kurile Islands stretching north to Kamschatka, was left to a kind of militia organisation, as it is peopled by Japanese colonists, planted among the aboriginal Ainos.

The army now numbered some 20,000 and had been tested in a successful little expedition to Korea, to open that country to Japanese trade; and a punitive expedition to Formosa, to punish its savage inhabitants for the murder of the shipwrecked crew of a Japanese ship.

On the 7th April 1876 took place a grand national celebration of the 2536th year of the Japanese Empire.

In 1871 an Imperial edict had given official permission to the "sword-bearing classes" to lay aside their swords. This they had been very largely availing themselves of and many of the old Samurai were now engaging in agriculture and trade, the more conservative, however, still clinging to their swords. A certain number had even taken to a life of brigandage. In March 1876 was issued an edict prohibiting the right of bearing arms or wearing swords to all but those in the regular forces of the Empire.

Four months later another edict ordered the compulsory commutation of all hereditary pensions to Samurai and Daimio for sums in Government paper equivalent to from 5 to 14 years' pension. The whole was payable in 30 years, bearing interest meanwhile at 5 per cent. The annual value of the pensions paid by the Empire was about £3,100,000 and under the old system was a permanent charge. By the Commutation Act the Government completely got rid of this permanent charge, and replaced it by a temporary charge of £2,300,000 with the obligation of raising and paying off 25 millions in 30 years. This radical measure reduced the incomes of the most wealthy Daimio and Samurai to one quarter.

As a set off to the discontent of these classes and to win over the bulk of the nation to the side of Government the land-tax was reduced from 3 to 2½ per cent. on the value of the land.

The great southern clan of Satsuma had supported the Emperor against the Tokugawa Shogun largely in the hope of obtaining the reversion of the position held by that western clan. They were not at all pleased with the march of events toward western progress. Their General Saigo had sometime previously retired from the Government and had organized the Satsuma country with a view to rebellion. He was joined by other discontented Samurai, and soon mustered 40,000 men.

The Government sent a steamer to clear the arsenal at Kagoshima. The rebels forcibly resisted this attempt and seized the arsenal, while the steamer only escaped with difficulty, bringing the news to the

Government on the 4th February 1877. To oppose this rebellion the Government had the newly reconstituted army 31,000 strong with an Imperial Guard of 4,000 men, the whole capable of expansion on a war footing to a strength of about 50,000 men. In addition there were available about 18,000 well drilled and armed police. The navy of nine steamers carrying 50 guns, though manned and officered mostly by men of the Satsuma clan, remained loyal.

The Government took immediate steps to suppress the revolt. Thirty-eight steamers were hired to transport troops to the scene of revolt. The 1st Japanese army under Prince Arisugawa landed at Fukuoka on the 19th February. Later a 2nd army landed at Yatsushiro and the combined forces succeeded in compelling Saigo to raise the siege of Kumamoto and fall back to the south.

A naval expedition with a military landing party occupied Kagoshima and by the 14th August the rebel army were penned up in a small district some 4 miles square near Nobeoka. Four days later Saigo with 200 men cut his way out, the remainder some 8,000 strong surrendered.

Saigo with his small band surprised and captured the greater part of Kagoshima. The arrival of the fleet forced him to fall back and take up a position on Shiroyama hill overlooking the town of Kagoshima, which was stormed at dawn on the 24th August by the Imperial army. Saigo and nearly all his men were killed, the rebellion was at an end. The feudal system of mediæval Japan was a thing of the past.

The results of this rebellion tended to unifying Japan. The successes obtained by the national army recruited from all classes against the best of the old Samurai fighting in their own most difficult country, were very great. But the price paid was also very great. Some 15,000 men were killed on both sides, while the cost to the Imperial Treasury amounted to nearly £9,000,000. The southern island took years to recover the damage done by this civil war.

In 1878 the first steps were taken toward representative government, an Imperial edict of the 22nd July established elective assemblies in all provinces.

The succeeding years were devoted to the further assimilation of western civilization. Railways, telegraphs, manufactures, submarine cables, the lighting of the dangerous coasts, public works of every description were carried out. In the words of the Mikado, "Intellect and learning were sought for throughout the world in order to establish the foundations of the Empire."

In 1880 the French mission returned to France and Japan began the reorganization of her army on the Prussian model.

In 1885 a German Military Mission under Major Meckel and Hauptmann von Blanckenburg came to complete the work already begun. To meet the extraordinary expenses of this reorganization a public subscription raised about £220,000 in 1887. Consequently on the outbreak of the war with China in 1894, which had been only narrowly avoided in 1885, Japan possessed a very complete little army not including the militia of the VIIth military district in Yezo

of one Guard and six line Divisions, complete with Train and all auxiliary services, with a war strength of nearly 270,000 men.

The Sino-Japanese war arose from an attempt on the part of China to solidify her claim to the suzerainty of Korea by sending Chinese troops to aid the Korean King against some rebels. Japan sent troops also to protect her interests.

Towards the end of July 1894 the Chinese had 5,300 men at Asan, 8,000 at Pingyang, with reinforcements coming from Mukden, and others being transported by sea.

The Japanese had their 9th Brigade at Seoul and occupied Chemulpo and Fusan, total about 8,000 men.

On the 25th July three Japanese cruisers intercepted a Chinese naval detachment of one cruiser, one torpedo vessel, one gunboat, and one despatch vessel escorting a transport, the *Kowshing*, with 1,200 men on board. The Chinese cruiser alone escaped.

Four days later the land forces met at Songhwan, 10 miles north of Asan. The defeated Chinese first retired south, then by a long detour northward passing to the east of Seoul, gained their main force at Pingyang.

These two fights took place before war was formally declared on the 1st August 1894.

On the 6th August the remainder of the Vth Division landed at Fusan and marched northward through Seoul.

On the 27th August part of the IIIrd Division landed at Won San (Gensan) and marched west.

The Chinese at Pingyang now numbered 14,000 under General Yeh and had strongly fortified the position held on the banks of the Tating river.

On the 15th September the Japanese advanced against this position in 4 columns:—

1st column.—General Sato's detachment of the IIIrd Division from Won San, 3 battalions, 2 mountain batteries, one troop cavalry, one field company engineers attacked from Shunan which they had occupied two days before.

2nd column.—General Tachimi's detachment partly IIIrd, partly Vth, from Sakriong 2 battalions, 1 battery, 1 troop cavalry to attack from the eastward.

3rd column.—General Oshima's 9th Brigade of Vth Division to attack from Chung-hua.

4th column.—The main column of the Vth Division had crossed the R. Tating near Hwaigu to attack from the west.

These attacks were further assisted by 12 gunboats and some torpedo-boats sent up the river from the fleet.

Owing to the difficulties of the ground, and the impossibility of keeping up intercommunication between the columns, the attacks were not simultaneous, the 3rd column was driven back, the 1st

and 2nd were only partially successful, and only the advanced guard of the 4th came into action. The Chinese, however, fled north-westward during the night. The Japanese loss was 700 killed and wounded, Chinese loss about 2 000.

The Japanese 1st army under Marshal Yamagata consisting of the IIIrd and Vth Divisions was now formed and proceeded to concentrate on the Yalu, leaving its 6th Brigade to guard its communications back to Pingyang, which had now been made into its base.

On the 17th September a naval action took place at the mouth of the Yalu. The Chinese lost five ships sunk and had six others severely damaged, while the Japanese had only three ships so much damaged as to necessitate return to Japan. Two of the Chinese fleet were 2nd class battle-ships and showed their fighting superiority over the Japanese cruisers by defying the united efforts of their whole fleet and escaping in the darkness of night.

This fight gave Japan the command of the Yellow Sea, as the Chinese made no attempt to concentrate ships from their Southern, Foochow or Canton squadrons to dispute this command.

The 1st Division was embarked in 33 ships and brought up to the mouth of the Pingyang inlet but did not land. Yamagata's army, meanwhile, despite the frosty weather and General Sung's Chinese army of 25,000 men, succeeded in throwing a bridge near Wiju across the River Yalu, here some 200 yards wide and 11 feet deep, and capturing a hill on the Chinese left flank. The Chinese retired. Detachments of the 1st army now advanced to the line Takushan-Fenghuang-cheng.

Meanwhile the IIrd army was organized under Marshal Oyama to consist of the 1st and VIth Divisions for the attack of Port Arthur.

On the morning of the 24th October the 1st Division commenced disembarking at the mouth of the Huaquan river east of Pitzuwo. This spot was the only one along the coast which permitted troops to be landed on rocks at high tide, but the ships had to lie nearly 4 miles out, and the low tide exposed three miles of mud flats.

The empty transports were sent back to bring up the 12th Brigade of the IIIrd Division which since the 28th September had been occupying Chemuipo. This brigade landed on the 1st November, on which day the 1st Division occupied Pitzuwo. The Japanese fleet covered these landings from near the Elliot Isles.

Meanwhile the Chinese had been reinforcing the garrison of Port Arthur, which was now about 10,800 men, while Chinchow and Talienwan were garrisoned by 6,000 more.

On the 5th November the 1st Division captured Chinchow, and the next day the Chinese deserted the Talienwan Forts which did not fire one shot.

Talienwan was now made the base, and the army halted till the 17th November to enable six companies of siege artillery to be brought by sea. On the 18th November the army moved forward and by 3 P.M. on the 21st the Japanese had carried all the forts, and Port

Arthur was in their hands. The same day an attempt to relieve the fortress was made by General Sung, who with 8,500 men attacked Chinchow but was driven back by the garrison of 1,500 Japs.

The 12th Brigade now garrisoned Port Arthur, while the 1st Division moved north to Fuchow.

Meanwhile a portion of the 1st army had been moving north-westward and on the 13th December the IIIrd Division captured Haicheng.

On the 15th January the 1st Brigade of the 1st Division captured Kaiping and opened direct communication with the advance of the 1st army at Haicheng. The operations in Manchuria now ceased for a time while the Wei-hai-wei campaign was carried through. It will, however, be more convenient if we complete the account of these operations.

During this pause, the Chinese made desperate attacks on the 17th and 22nd January, the 16th and 21st February with a view to recapture Haicheng. Most of this fighting was in two feet of snow and the weather was desperately cold. The Chinese attacks were beaten off, but the Japanese lost a number of men incapacitated by frost-bite.

Toward the end of February the 1st Division was transferred to the 1st army and concentrated at Kaiping. This Division with the IIIrd from Haicheng and the Vth from Fenghuang-cheng now commenced an advance northward, and wheeling to their left captured Niuchwang on the 4th March after a somewhat determined house-to-house resistance by 3,000 Hunnanese "braves" who were all that remained to fight of its large garrison.

General Sung with 30,000 men had entrenched himself at Tien-chuangtai; on the 9th March he was attacked by these three Divisions and completely defeated. The Japanese now fell back, the 1st Division to Kaiping, the IIIrd to Kang-wang-tsai and the Vth to Haicheng, and commenced their preparations for the advance on Peking.

We must now turn to Wei-hai-wei, where the Chinese Northern Fleet had taken refuge. As their presence in this port was a menace to the free transport of Japanese troops across the sea for the projected attack on Peking, the Japanese determined to attack Wei-hai-wei.

The IIrd Division and the 11th Brigade of the VIth Division were embarked in 50 ships and sailed to Yeng-chung Bay, the extremity of the Shantung peninsula. By the 25th January the whole force was landed despite some small opposition from the Chinese. (The disembarkation of the complete Division occupied three days.)

The fleet closely watched Wei-hai-wei, while the army advanced to the attack. On the 30th January the eastern forts were carried, being soon deserted by their garrisons. A Chinese naval landing party made a determined attempt to disable the guns. Japanese forethought, however, which had brought spare parts for the guns from Port Arthur rendered this attempt of no avail. Fire was opened from the captured Chinese guns on the Chinese fleet at one o'clock. The fleet aided by the remaining forts silenced the fire in three hours.

On the 1st February the Chinese army retired, leaving the rest of the forts, seeing which the Chinese sailors landed and destroyed the guns. The weather was excessively cold, the Japanese Admiral Ito reported, "The cold was so intense that the ships were covered with ice, and blocks of ice 3 to 5 inches thick were frozen into the muzzles of the guns."

On the night of the 4th-5th February an attack by the torpedo flotilla resulted in the destruction of one Chinese ship, but at the cost of one torpedo boat sunk and two damaged.

The bombardment was continued till the 12th February, when Admiral Teng offered to surrender, and then committed suicide. The Chinese surrendered on the 16th February.

The Japanese destroyed the place and then transported their army across to the north shore, the IInd Division to Talienwan, while the VIth Division was reunited at Port Arthur.

Negotiations for peace commenced soon after, but the Japanese did not cease their preparations for the vigorous prosecution of the war, now taking the form of an advance against Peking. A small force of the Reserves captured the Pescadores in the Formosa channel. The Guard and IVth Divisions were brought over from Japan and with the IInd and VIth Divisions were concentrated near Port Arthur. The 1st and IIIrd Divisions commenced their southward march to Port Arthur which was to be the port of embarkation, while the Vth Division held the country to the north.

The Chinese had collected 200,000 men near Shanhaikwan for the defence of the capital.

The signature of the Treaty on 17th April put an end to further operations. The Liatung peninsula and Formosa were ceded to Japan and Wei-hai-wei was to be held till the indemnity was paid.

Consequently the Guard were sent to occupy Formosa, the IVth Division occupied Port Arthur, and the 11th Brigade of the VIth Division went to Wei-hai-wei. The rest went back to Japan towards the end of May.

The interference of Russia, Germany and France resulted in the abandonment of the Japanese claim to the Liatung peninsula, and the IVth Division were sent to join the Guard in Formosa.

The principal results of this war to the Japanese were the complete unification of the various clans into the Japanese nation with a strong national feeling and the receipt of the indemnity of 34½ million pounds. This great sum paid in gold enabled Japan to put her finances on a secure basis, by establishing a gold reserve, and changing her currency to a gold standard. Originally the Japanese had had a gold coinage with a fixed ratio between gold and silver of 1 to 6. The early treaties with the foreigner provided that foreign silver coinage should be interchangeable with Japanese silver coinage weight for weight. The relative value of gold to silver throughout the world at that time was 1 to 15. The natural result of the Japanese peculiar gold to silver ratio was the flooding of Japan with

foreign silver, which was exchanged for its weight of Japanese silver and used to buy up the Japanese gold pieces; these were then exported to China and sold as bullion. The profit to the foreigner being about 150 per cent, while the Japanese lost their entire store of gold in a very few years. The Chinese indemnity enabled the Japanese financiers to put their affairs on a more certain footing. According to the latest reports the gold reserve in the Bank of Japan is said to be about 30 million pounds.

After the successful war with China the popularity of the army was immense. The Emperor took advantage of this popularity to increase the army by an edict of the 16th March 1896, ordering the formation of six new Divisions. The Districts of the IInd to the VIth Divisions were divided into two, and the VIth District was in future to furnish a real Division in place of its colonist militia.

These formations were to be completed by April 1903, and to be in full working order by 1905, when the Japanese army will have a peace strength of 150,000 men and 30,000 horses, capable of expansion by trained men to an army of 500,000 men with 100,000 horses for war, with a supernumerary reserve of about another 500,000 men between the ages of 20 and 27 with a training of from 3 to 7 months.

All the Japanese arrangements are now adapted from the German. The Emperor like the Kaiser is the supreme head of army and navy. He has an advisory board of 4 marshals of the army and navy, called the Council of Marshals. In addition to the Emperor's advisory board are five officials, the Minister of War, the Minister of Marine, the Chief of the General Staff, the Director of Military Training and Education, and the Chief of the Naval Board.

The War Ministry and the General Staff are divided on the German plan, the former dealing with the administration, organization, and personnel of the army, the latter with the national defence and the necessary measures for the location, transport and mobilization of troops, and the obtaining of intelligence.

The War Office is divided into departments for military affairs, personal affairs, administration, medical affairs, and judicial matters with a special department directly under the Minister of War for Military Training and Education.

The General Staff Office is divided into five sections, defence, equipment and mobilization, military statistics and intelligence, transport and communications, and historical and geographical sections.

The Staff is divided as in the German army into General Staff, dealing with all preparation for war, mobilization, military training, transport and communication; and into the adjutant duties dealing with the preparation of daily orders, reports, interior economy, correspondence, personnel, horses, arms, ammunition and equipment.

The German army corps system has not yet been adopted. The Line Divisions are however grouped in three commands of four Divisions each, that of the East, Head Quarters, Tokio; Centre, Head Quarters, Osaka; West, Head Quarters, Kokura. These army commands are held by field marshals or generals.

The Guard Division is not under these commands, but is directly under the Mikado. The Infantry of the Guard Division is recruited from all the other Line Divisions. Selections for the Guard are made from recruits who have served "successfully and blamelessly" for six months with their own Divisions. The Artillery, Cavalry, Engineers and Train of the Guard are recruited from the Districts of the 1st Division.

Owing to the want of Japanese population in Yezo and to the fact that the Ainos are not utilized as soldiers, the VIIth Division is recruited from the Eastern army, *i.e.*, the 1st, 11th, VIIth and VIIIth Divisions. All the other Divisions are recruited from their own districts.

The newly acquired island of Formosa is garrisoned by a special force of about 15,000 men formed by detaching men from each of the Divisions except the Guard and the VIIth so as to form a force of 11 battalions, 3 squadrons, 11 batteries, 3 field companies, who are organized in three Brigades of all arms. The Loochoo Islands are garrisoned by insular militia.

A Japanese Division mobilized for service consists of—

- 2 Infantry brigades of 2 regiments of 3 battalions of 4 companies each.
- 1 Cavalry regiment of 3 squadrons.
- 1 Artillery regiment of 2 battalions, what we would call Brigades of 3 batteries of 6 guns each.
- 1 Engineer battalion of 2 companies with a special bridging company, carrying 160 yards of bridge.
- 1 Sanitary detachment of 2 bearer companies with a complete equipment between them for 200 sick.
- 1 Ammunition supply battalion.
- 4 Infantry and 3 artillery ammunition columns.
- 1 Horse depôt.
- 6 Field hospitals each with equipment for 200 sick.
- 1 Telegraph detachment with 12½ miles of air line and 6 miles of covered wire.

A Division has a fighting strength of 10,000 rifles, 400 sabres and 36 guns.

The Japanese class all transport and train, ammunition columns, ammunition supply battalions, medical and veterinary units and even the telegraph and bridging sections of the Engineers as 'non-combatants.'

In addition to the Cavalry and Artillery required for the 1 Guard and 12 Line Divisions, there are stationed near Tokio 2 brigades of artillery, and 2 brigades of cavalry with 2 regiments of 5 squadrons each. Some accounts state that these are attached to the Guard and 1st Divisions, others that these formations are meant to be used as a Cavalry Division and Corps Artillery if such should be required at any time. There are also 10 regiments of Fortress Artillery with 1

to 5 battalions of 2 or 3 companies as may be locally necessary. This artillery is meant for the coast defences of Formosa and the Pescadores, of the Island of Tsushima in the Korean Straits, of the war harbour of Sashebo, the Straits of Shimonoseki and Yura, and the naval dockyards of Kure and Yokosaka.

The Infantry are armed with the new Arisaka rifle called the 30th year Meidji rifle from the 30th year of the reign of the Emperor. This rifle is a bolt action of .256 inch bore with a magazine of 5 cartridges and a 15-inch bayonet. Each man carries his own kit in a skin knapsack with a rolled great-coat, a waterproof sheet, a tente d'abri, a pair of shoes, and an entrenching tool ($\frac{3}{4}$ shovel, $\frac{1}{4}$ pick). Each man carries 120 rounds, 100 rounds are in the battalion transport, 100 in the ammunition column, and 50 in the ammunition park. Each man carries 1 day's ordinary and 2 days' emergency rations; the regimental transport 1 day's ordinary, the supply column 1 day's emergency and 3 days' ordinary. The total weight carried by the Japanese infantryman is about 50 lbs. His minimum height is 5 feet 2 inches. The barracks are solidly built and provided with every convenience, especially with baths, which all Japanese take very hot.

The Cavalry are all Hussars and are armed with sword and carbine. The Cavalry of the Imperial Guard carry a lance for escort duties. The carbine is carried slung on the back without a bucket. The total weight carried by the horse averages $16\frac{1}{2}$ stone. The horses or rather ponies are poor looking animals under 14 hands, but are very hardy. The best come from Yezo. The Japanese Government has paid great attention to the breeding of horses, so that now sufficient can be obtained within the islands for the supply of the army. The Japanese are poor horsemasters, and their Cavalry is certainly the weakest point of their army.

In the first organization each Artillery battalion consisted of 2 batteries field and 1 battery mountain artillery. Now each Divisional Artillery regiment consists entirely either of field or of mountain artillery. The Vth, VIIth, IXth, Xth and XIIth have only mountain artillery. Only in the 2 Artillery brigades stationed near Tokio are both mountain and field batteries brigaded together. The Artillery are being rearmed with the Arisaka Q. F. gun of steel with a calibre of 2.95 inches, an initial velocity of 1,660 feet-seconds and a range of 5,000 yards. Both mountain and field gun are of the same bore and fire the same 11lb. projectile, but the mountain gun is much shorter and has only half the initial velocity and range of the field gun. One hundred and thirty rounds of shrapnel with a few common shell per gun are carried with the battery, and 142 rounds per gun with the ammunition column. In China however the batteries carried 84 shrapnel and 55 thorite high explosive shell per gun. The normal establishment of an ammunition column is 200 pack animals each with an attendant. When the country admits of it, however, two-wheeled one-horse carts are to be used. The ammunition supply battalion is, I believe, a peculiarity of the Japanese organization. Its duty is to keep the reserve ammunition with the regimental transport filled up from the ammunition column. It consists of 2 companies with an aggregate of 12 officers, 23 non-coms. and 402 privates.

On mobilization it is organized from reserve artillerymen. I regret that I had no opportunity of seeing it at work in China.

On mobilization the Divisional Engineer battalion forms 2 field companies and a bridging company with 160 yards of bridge. It is also used to form telegraph sections, but this duty has now been taken over by the Central Railway Battalion at Tokio. Ballooning in the Japanese army is only in an experimental stage.

The medical arrangements of the Japanese are excellent and on a very considerable scale, about 100 surgeons being with the Division. On mobilisation in addition to the medical details with the troops each Division forms 1 sanitary detachment, 6 field hospitals, a medical service for the lines of communication including stationary field hospitals, reserve hospitals as may be necessary and a transport staff.

The sanitary detachment consists of 500 bearers commanded by a major of Infantry organised in 2 companies, each having 9 medical officers and 40 trained men of the hospital corps with sufficient equipment between them for treating 200 sick. Each field hospital has 6 medical officers and 50 trained men with equipment for 200 sick. The field hospital is divisible into 2 sections. When a field hospital is nearly full it is relieved by one of the stationary field hospitals from the lines of communication which enables it to rejoin its division. The special transport staff relieve the medical officers of much work by arranging for the evacuation to the rear of the sick and wounded.

Each regiment of Infantry has 6 surgeons, two to each battalion, and 15 men of the hospital corps with 48 soldier stretcher-bearers. On coming into action 3 surgeons accompany the battalions and 3 form a temporary dressing station. When the sanitary corps comes up and forms its collecting station, the temporary dressing station is abandoned and the 3 battalion surgeons join the collecting station. From here the wounded are transferred to the field hospitals still further in rear.

Each cavalry regiment has 2 surgeons, each battery or field company 1 and each train battalion 3.

Surgeon-Major Banister of the United States army, writing of the Japanese in China in 1900, says: "It was the general impression among medical men with the expedition that the Japanese medical service was most efficient and complete, removing their wounded promptly to the base. This was not due to superiority of equipment, but to a better organization of personnel for field service and to the numbers they have at their disposal."

Each division has its own train battalion which performs the duties of supply and transport. The train soldiers do the full 3 years with the colours but the transport drivers, who as a rule are men too small for the ranks, are sent on furlough after 3 months. On mobilization the train battalion detaches the necessary transport for the regimental units which become for the time part of those units. The remainder form the supply columns. Every transport animal has one transport soldier to look after it.

The transport soldiers are also formed into corps of porters when the conditions of the country do not permit of pack or wheeled transport.

The transport cart is a two-wheeled cart for one pony and carries a load of about 360lbs. The track of the wheels is very narrow, about a yard, the same as that of a jinriksha.

The daily ration of the Japanese soldier is 1 quart of rice, $\frac{1}{2}$ lb meat, $\frac{1}{2}$ lb. vegetables with a small tot of rice spirit. The emergency ration consists of rice which has been boiled and then dried and thus shrunk to a very small compass. It only requires to be put into boiling water for a few minutes to regain its original bulk. "It is eaten with a relish of salt fish, dried seaweed, or pickled plums." The emergency meat ration is supplied in small 4-oz tins.

Two days' emergency and 2 days' ordinary rations are carried with the unit; 1 day's emergency and 3 days' ordinary with the supply column, making a total of 8 days' supply; 3 days' supply of corn is carried with the unit, 3 days' with the supply column.

The Japanese uniform is dark blue tunic and trousers, except for the cavalry who wear red trousers. The different arms are easiest distinguished by the colour of the trousers stripe. In the Infantry this is bright red. In the Engineers dark red, green in the Cavalry, yellow in the Artillery and blue in the Transport. The Guards wear a red cap band.

Rank is distinguished after the French fashion by the number of lines of thin braid round the cap and round the sleeve.

Every Japanese male between the ages of 17 and 40 is liable to military service, though as a rule military service does not commence till the age of 20 is attained. The population of Japan is about 46½ millions who inhabit some 4,000 islands, stretching from Formosa to Kamschatka. The number of those who reach the age of 20 each year is between 400,000 and 500,000 of whom less than 60,000 are required for service with the colours.

The selection is made by lot. A Japanese subject of the age of 20 must attend the lot drawing. If he draws a low number he is posted to the standing army, if a higher number to the 1st part of the supernumerary reserve corresponding to the German Ersatz reserve, with a liability for one year of being transferred to the standing army if the latter should happen to be deficient. If he draws a still higher number he goes to the 2nd part supernumerary reserve with a merely nominal liability to service for 1 year 4 months. While the highest numbers send him direct into the 2nd part of the national army or Landsturm, untrained and only liable to be called out in time of war or national danger. To the national army also belong all the men between 17 and 20 who have not volunteered to serve as one-year volunteers before reaching the age of 20.

In 1896 485,000 men came up for service.

- " 42,890 were taken as recruits.
- " 130,450 were sent to the supernumerary reserve.
- " 212,200 were sent to the national army.
- " 31,060 were freed from service as exempt.
- " 68,400 were struck off as unfit.

The table on the next page shows the length of service in each category—

Table showing Japanese liability to service.

Years of age —	17	20	23	27	35	40				
I Low numbers	<p>May volunteer to serve if it suits him rather than take his change of drawing a high number in the lot drawing.</p> <p>National Army.</p>									
II High numbers	<p>STANDING ARMY.</p> <table><tr><td>With colours. → 3 years. →</td><td>With Reserve. → 4½ years. →</td></tr><tr><td colspan="2">Brings colours to war strength, forms depôts, 60 days' training in 2nd and 4th years.</td></tr></table> <p>Supernumerary Reserve.</p> <p>1st part. → 7½ years. →</p> <p>Liable to transfer to the Standing Army during first year to replace deficiencies, 90 days' training 1st year and 60 days during 2nd and 4th years.</p> <p>In war form independent depot battalions.</p>						With colours. → 3 years. →	With Reserve. → 4½ years. →	Brings colours to war strength, forms depôts, 60 days' training in 2nd and 4th years.	
With colours. → 3 years. →	With Reserve. → 4½ years. →									
Brings colours to war strength, forms depôts, 60 days' training in 2nd and 4th years.										
III Higher numbers.	<p>Supernumerary Reserve, 2nd part. → 1½ years* →</p>									
IV Highest numbers.	<p>National Army, and part (untrained). → 1½ years →</p>									
	<p>National Army, 1st part. → 1½ years →</p> <p>Called out only in time of war or national danger.</p>									
	<p>Reserve Army. → 5 years. →</p> <p>Supplements Standing Army, forms 1 Brigade for each division, 60 days' training in 2nd and 4th years.</p>									
	<p>National Army, 1st part. → 1½ years →</p> <p>Called out in time of war and national danger.</p>									
	<p>National Army, 1st part. → 1½ years →</p> <p>Called out only in time of war or national danger.</p>									
	<p>National Army, and part (untrained). → 1½ years →</p>									
	<p>National Army (quite untrained), and part.</p>									

* The 2nd and part Supernumerary Reserve is at present untrained and represent merely a nominal liability to service.

A youth is exempt from service if the nation needs him in some other capacity, or if it is clearly established that his absence from home would deprive his family of the means of subsistence. This possibility of exception used to lead to a curious abuse. "It became a common custom to employ some aged and indigent person, set him up as the head of a branch family and give him as an adopted son a youth liable to conscription. The law is now framed so as to prevent all such frauds."

The reserve army is officered by retired officers and by the system of one-year volunteers. Men between 17 and 28 mostly of good family and all of good education volunteer to serve at their own expense for one year, three months of which must be in barracks instead of taking their chance with the lot. These on completion of their year's service and after having passed an examination are drafted into the reserve army as reserve officers. Their numbers are so few that the Government have adopted the system of assisting youths who are otherwise qualified to be volunteers. In 1898 there were 1,144 volunteers, of whom 320 paid half their own expenses and the remaining 754 were paid for by the State. So that the provision of these reserve officers is a serious difficulty. There appears to be no provision of officers for the national army.

The officers for the active army are obtained either from Cadets by competitive Schools or examination. There are six local preparatory Cadet Schools and one Central School at Tokio. The age of entrance into the local Cadet School is between 13—15. The candidates must show a certain degree of education by examination or certificate from previous schools. After three years the cadet is transferred to the Central School where he spends 21 months more. If he graduates sufficiently well, he is sent to serve with the colours from six months to a year, first as a private soldier then in non-commissioned officer's rank. He then joins the Officer's College, where he devotes 8½ hours per day to study, and two hours to drill, riding and gymnastics. He must learn one foreign language, French, German, English, Russian or Chinese. On completion of the course of one year at the Officer's College, if successful at the final examination, he is drafted for six months on probation to the branch of the service to which he is to belong. At the end of this time a board of staff officers report on him. If the report is favourable he is commissioned as a 2nd Lieutenant. If he is to be a gunner or a sapper he then goes for another year to a special college for technical instruction both practical and theoretical. A youth who has not been through the Cadet School must pass a severe competitive examination. He must be between the age of 17 and 22. If successful he is sent to the ranks to do a year's service before joining the Officer's College, after which his course is as I have already outlined for the cadet.

This severe training does not however end his military education. If he desires to rise to anything beyond the rank of captain he must attend one of the Tactical Schools at Tokio. The Infantry Tactical, Gymnastic or Musketry School assemble classes twice a year each, of five months' duration.

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in 1900 were taken from the Vth Division. This division was a notable piece of work, and although the whole Japanese army was mobilized reached the Division on the 26th June. 18 days later, the last transport carrying the force was embarked in 25 large and the Japanese are very like our Gurkhas in size and are certainly excellent soldiers.

In 1900 I had many opportunities of watching the It is impossible for any one to watch Orientals for long without discovering something that ought not to be. In my with the donning of their western dress appear to be without oriental trait. I never saw anything that I could take for oriental trait. Their sentries though they did not walk about smartly, nor stand properly at ease, were real sentries and very alert. The smallest party, with no officer present, did so roughly and with an appreciable spirit. Surgeon-General Taylor remarked the same in the Sino-Japanese war of 1894-5. He writes: "The same energy, zeal, faithful service, and devotion were shown whether the troops were in Divisions, regiments or in small parties, as well as by individuals on lonely sentry

In 1900 the Japanese took the greatest pains in mapping that portion of China they passed through. One great advantage they possessed over the other nations in China lay in their ability to communicate with the inhabitants. Naturally a goodly number of the Japanese could speak Chinese, but even those who did not, could communicate by writing, as the Japanese employ to a large extent the same system of ideographs that the Chinese do.

Any remarks on Japan's military strength which took no notice of her navy would be incomplete. The power and safety of Japan depends entirely on her fleet. If she loses the command of the sea she loses all power of offensive action. Not only so, but the sea dividing the 4,000 odd islands, of which the empire is composed, lays her open to be conquered piecemeal, island by island, by an enemy who holds command of the sea. Her present alliance with the greatest naval power of the world secures her this vital command, and ensures her position in the East.

Under the feudal system each of the principal Daimios possessed some sort of a fleet. In 1862 this total fleet consisted of about 30 vessels, of which 5 were men-of-war and 19 were steamers. Concurrently with the establishment of the army on the European model measures were taken for the creation of the fleet. A considerable number of British naval officers and petty officers were engaged, and the British navy was taken as the model. Compulsory universal service solved all recruiting difficulties. The terms of service were 4 years active, 3 years in the 1st reserve and 5 years in the 2nd Reserve, giving a total of nearly 50,000 sailors. The men were taken from the seafaring classes with a natural aptitude for service afloat.

The military practice School for Cavalry has one course of 11 months. The School of Artillery and Engineers has an ordinary course lasting for one year, and one-third of the first year students are selected for a second year's higher training. There are also special schools of gunnery with courses of three to four months' duration.

There are also training schools for instruction in medicine, veterinary medicine, paymasters' duties, surveying and music.

Candidates for the General Staff go through the Staff College at Tokio. They must be 2nd-Lieutenants or Lieutenants of more than 2 years' service and under 28 or 30 years of age respectively. They must pass two competitive examinations. The first is held at the Divisional Head-Quarters, the papers being sent from the Staff College. The successful candidates are re-examined at Tokio. The first 50 are selected for admission to the College. The course is based on the German system and lasts three years. At the end of each year a council of the professors sit to report on the capacity and progress of the students. Those whose retention is considered undesirable are sent back to their regiments under the orders of the Chief of the General Staff. While at the various Schools officers receive full pay and all their expenses. Officers are also sent to study in foreign countries. Last year in Hanover I saw 2 Japanese officers attached to the Infantry there. I learnt that there were more than 20 Japanese officers in Germany.

The pay of a 2nd-Lieutenant is £34 a year, of a Lieutenant-Colonel £175, while the private soldier gets about 6 pence a week.

The bulk of the officers are furnished by the old Samurai family whose traditions of courage, honour, loyalty, plain living and absence of mercenary motives are still acted up to. Every Japanese is brought up in the belief that the greatest privilege of his life is to be permitted to lay it down for Japan and the Emperor. The Japanese officer is nearly always without private means, but he has no mess or band expenses, an inexpensive uniform, and is very frugal and economical in his habits. He devotes himself to his profession and lives for nothing else.

Promotion depends very largely on selection—from 2nd to 1st-Lieutenant two-thirds of the promotions are made by seniority, from 1st-Lieutenant to Captain, one-half by seniority; one-half by selection. After this promotion is made entirely by selection.

Japan is rapidly making herself self-supporting. Her coal-fields have now been exploited for some time and she has started a steel foundry near Fukuoka.

The principal arsenals are Tokio for the manufacture of small arms and small ammunition, saddlery, and powder; Osaka for guns, carriages, fuzes, gun ammunition, smokeless powder, torpedoes, gun cotton, and Moji for repairs and manufacture of equipment.

There is also a Chinese arsenal at Taipeh in Formosa which has been maintained by the Japanese. This arsenal contains a torpedo depôt and shell foundry and can turn out and repair naval machinery.

The Government clothing factory is in a suburb of Tokio. The clothing is made up regimentally.

Thanks to universal service the cost of this army is small, being under £ 4,000,000 a year. A Japanese official said that Japan could maintain for more than a year an army the size of our army in South Africa for less than that army cost us in a single fortnight.

The troops I saw in China in 1900 were taken from the Vth Division. The mobilization of this Division was a notable piece of work, and was carried out exactly as though the whole Japanese army was mobilising. The order to mobilize reached the Division on the 26th June 1900; on the 15th July, 18 days later, the last transport carrying the Division had left Japan. The force was embarked in 25 large and 35 small steamers. The Japanese are very like our Gurkhas in size and appearance, and are certainly excellent soldiers.

At Tientsin in 1900 I had many opportunities of watching the Japanese troops. It is impossible for any one to watch Orientals for any length of time without discovering something that ought not to be. The Japanese army with the donning of their western dress appear to have lost this Oriental trait. I never saw anything that I could take exception to. Their sentries though they did not walk about smartly on their beats, nor stand properly at ease, were real sentries and very much on the alert. The smallest party, with no officer present, did its work thoroughly and with an appreciable spirit. Surgeon-General Sir William Taylor remarked the same in the Sino-Japanese war of 1894. He writes: "The same energy, zeal, faithful service, and self-sacrifice were shown whether the troops were in Divisions, regiments, or in small parties, as well as by individuals on lonely sentry posts."

In 1900 the Japanese took the greatest pains in mapping that portion of China they passed through. One great advantage they possessed over the other nations in China lay in their ability to communicate with the inhabitants. Naturally a goodly number of the Japanese could speak Chinese, but even those who did not, could communicate by writing, as the Japanese employ to a large extent the same system of ideographs that the Chinese do.

Any remarks on Japan's military strength which took no notice of her navy would be incomplete. The power and safety of Japan depends entirely on her fleet. If she loses the command of the sea she loses all power of offensive action. Not only so, but the sea dividing the 4,000 odd islands, of which the empire is composed, lays her open to be conquered piecemeal, island by island, by an enemy who holds command of the sea. Her present alliance with the greatest naval power of the world secures her this vital command, and ensures her position in the East.

Under the feudal system each of the principal Daimios possessed some sort of a fleet. In 1862 this total fleet consisted of about 30 vessels, of which 5 were men-of-war and 19 were steamers. Concurrently with the establishment of the army on the European model measures were taken for the creation of the fleet. A considerable number of British naval officers and petty officers were engaged, and the British navy was taken as the model. Compulsory universal service solved all recruiting difficulties. The terms of service were 4 years active, 3 years in the 1st reserve and 5 years in the 2nd Reserve, giving a total of nearly 50,000 sailors. The men were taken from the seafaring classes with a natural aptitude for service afloat.

In 1894 the Japanese fleet which proved its superiority over the Chinese nominally more powerful ships consisted of 1 battleship, 4 armoured cruisers, 7 protected cruisers, 10 smaller cruisers and 10 other vessels, gunboats, etc.

The navy of the present day receives the greatest praise from all authorities. It now consists of 6 battleships, 20 cruisers and 49 torpedo-boats and destroyers; 1 battleship, 2 cruisers and 39 torpedo-boats and destroyers are building. A more extensive building programme which will provide 3 more battleships and 5 cruisers at a cost of 6 million sterling has just been laid down. The naval expenditure is about $2\frac{1}{2}$ million sterling *per annum*.

The Naval dockyards are Kure, Yokosaka and Sasebo. The plant for the latter was mostly obtained from Port Arthur. A fourth is to be established at Maidzuru.

In conclusion we may notice that Japan is in reality a very poor country, and despite her undoubted naval and military strength would require considerable pecuniary assistance to face the expenses of any protracted war.

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NOTES ON A REORGANIZATION SCHEME FOR NATIVE INFANTRY.

BY LIEUTENANT G. H. SAWYER, 23RD PIONEERS.

In advancing any scheme for reorganization one feels compelled to offer some excuse for one's temerity, in fact to apologize to those who hold the theory that, what has served a particular purpose hitherto will necessarily continue to serve all purposes for all time. Still it must be admitted even by conservatives that, theoretically at least, few organizations exist which are not capable of some improvement, and on this ground the present regimental organization of the Native Infantry may be considered open to criticism.

Preface.

The scheme is suggested as a means of meeting several undesirable existing conditions. These conditions are enumerated in Section I. Section II outlines a scheme for brigading 3 existing battalions to form one regiment with a specially constructed central dépôt. Section III deals with the working of the scheme and endeavours to point out certain advantages which might be expected to accrue therefrom. Section IV describes various beneficial changes which the scheme might bring about in the economy of existing battalions. Section V summarizes arguments in favour of the scheme and concludes.

SECTION I.

The training of a regiment should imply the training of a body of men to act concertedly in such a manner as to meet an enemy on the most advantageous terms. Now the fact remains that the time and energies of a considerable proportion of the officers of a Native Infantry regiment are constantly employed in endeavouring to make the soldier capable of meeting an enemy at all. That is to say, that at present in every regiment there is a large number of recruits whose training in the very elements of their profession absorbs the utmost attention of two of the best commissioned officers of the regiment assisted by a considerable staff selected from among the smartest non-commissioned officers. The recruits occupy much of the attention of the commanding officer and of company and section commanders, introducing also additional clerical labour.

Now it seems a logical deduction that could the training and entertainment of recruits be so dealt with as to absorb less of the time and energy of officers and non-commissioned officers, more time and energy could be devoted to bringing trained soldiers to a higher state of efficiency.

This will be made the first condition suggesting improvement, *vis.*,
1. That the higher training of trained soldiers is at present hindered by the heavy work of recruit training.

To proceed :—By a recent attempt to lessen the clerical labour in and the correspondence passing through regimental offices desirable, regimental officers, the higher authorities

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Reduction and simplification of regimental offices desirable.

have shewn that they already recognise that this section of regimental organization has assumed undue proportions. In fact it is deplorable that clerical labour of an irksome nature should occupy so much of an officer's time that he frequently comes to regard it as his chief duty.

Here a second improvment is suggested, *vis.* :—

2. Any reduction of office work and any simplification of the clerical system of a regiment is desirable, as it will release much energy for employment in the attainment of higher practical efficiency.

Again on a regiment proceeding on service there is a certain Present depôt system disadvantageous. dislocation, a change of organization, *e.g.*, the formation of a depôt. This depôt takes one British, four Native and thirty-two non-commissioned officers. These officers must be smart competent men and the regiment loses their services when it needs them most. The formation of an extra office and increased clerical labour. and complexity of clerical labour is hereby entailed.

The necessity of promoting four non-commissioned officers, to New promotions undesirable on service. commissioned rank and 32 sepoys to non-commissioned rank in order to replace those left at the depôt, is to be deprecated at a period when the regiment most needs officers of experience.

Further, the acquisition of active service clothing, necessities, Acquisition of Army Service equipment and stores now necessitates stores might be simplified. the application to several corps and departments, and the process is capable of much simplification.

It must be acknowledged that the whole proceeding of mobilization is somewhat intricate and introduces a disorganizing element at a critical period.

Thus a third and fourth improvement are suggested, *vis.* :—

3. That any scheme by which a regiment can proceed on service without suffering so much organic change and office complicity and with a smaller waste of fighting material is worthy of consideration, and
4. That a simplification of the present method of obtaining mobilization stores would be advantageous.

In the present system of linked battalions the bond is so ethereal as to be practically valueless save as regards reserve training. There is neither similarity in uniform nor uniformity in method of training; neither is there any co-ordination of interests.

Commanding officers at present are at liberty to make innovations Want of uniformity among linked battalions. productive of essential differences between the uniforms, etc., of linked battalions, whereas similarity is desirable. Cases occur where commanding officers even indulge their personal hobbies with regard to necessities and clothing, thus putting the sepoy to expense and

inducing complexity where simplicity is desirable. Thus a fifth improvement is suggested, *vis.* :—

5. That by some means a uniformity of kit, clothing and necessities should be induced among linked battalions and that a check should be placed upon ill considered and fanciful alterations in kit.

The sixth point will perhaps be conceded without argument, *vis.* :—

6. That among linked battalions it is desirable to foster a common *esprit de corps*, to promote a closer intercourse between officers and men of different battalions and to generally co-ordinate their interests with a view to mutual support on service.

It is desirable also to induce uniformity in that method of training which is found by experience to be the best. At present battalions profit nothing by the experience acquired by other battalions on service, *e.g.*, improvements in scout training, hill tactics, methods of loading kit are suggested by practical experience on service and not generally communicated by the battalions evolving them.

Note.—These six conditions suggesting improvement will be referred to hereafter by their section and number when any remedy is suggested.

SECTION II.

Many schemes might be conceived with a view to obviate the above indicated defects, but the following is set forth because both the changes necessitated and the expense entailed thereby appear inconsiderable in comparison with the benefits accruing.

- (1) The scheme consists in the formation of regiments, each composed of three of the existing battalions and each having a central depôt, of special construction.

The battalions would preserve their individual independence and their present organization would not be altered except that—

- (a) they would consist of trained soldiers only, the whole of the recruit training being undertaken by the central depôt, and
- (b) that in order not to suggest an increase of the present army strength by the creation of the central depôt, the battalions should only be maintained at the service strength of 736* or at such a strength that the three reformed battalions with the central depôt would not outnumber three existing battalions of 908* men each.

2. The central depôt would be constructed as follows :—

- (a) Officers. The officer commanding the central depôt should for reasons which will become obvious, be senior to Officers.

* Excluding—
British Officers.
Hospital Assistant.
Ward Orderly.

all battalion commanders. He would be assisted by an Adjutant and a Quarter Master.

The Adjutant should be an officer especially selected for ability shewn in recruit training and drill. He would have charge of the enlistment, training and supply to battalions of all recruits.

The Quarter Master will have charge of the pay of the dépôt, of all stores and equipment maintained therein, and of all correspondence and records except those dealing with enlistment, training and supply of recruits to battalions.

As the duties of these two officers will of necessity be arduous, and as the work of the latter, being entirely clerical, will be unattractive, it is desirable to make the appointments acceptable and popular by an adequate staff salary. As it is also important to obtain the services of two of the most efficient officers in the regiment, their duties might be regarded as qualifying service towards professional advancement.

The above are the three permanent dépôt staff officers, and the two junior should be seconded in their battalions for say four and two years respectively.

The dépôt commander might be appointed by selection, on completing his term of command in his own battalion. Now in order to provide for casualties among the dépôt staff, it is advisable to attach two other officers to the dépôt. These officers might be from among those selected by battalion commanders to act in future as battalion staff officers. They would while gaining valuable experience give material assistance to the dépôt staff.

Battalion commanders might also find it advantageous to attach junior officers to the dépôt for instruction.

- (b) The strength of men maintained at the dépôt will be decided by arriving at the number of recruits required to keep the Strength of men. battalions up to their service strength or up to any strength at which it is decided to maintain them. This number may be obtained by dividing the strength of the three battalions by the average service in years of sepoys in battalions and multiplying by the duration of the training of recruits in years.

Using the formula and assuming that it is decided to maintain the battalions at the service strength of 736, and that the duration of the

NOTE 1.—Taking 736 as service strength and deducting 16 buglers, for whom special enlistment might be allowed, the sum becomes—

$$\frac{720 \times 3}{10} \times 2 = 432.$$

Again 18 months should be long enough for recruit training, so the number can be lessened to 324 thus—

$$\frac{720 \times 3}{10} \times 1\frac{1}{2} = 324.$$

training of recruits is to be two years, and that the average length of service of a sepoy is 10 years, the depôt strength in men (recruits) will be 432 (*vide* footnote 1) with a proper proportion of Native officers and non-commissioned officers in addition.

It will be observed that the total strength thus arrived at may be less than that maintained at present in three battalions of 908 each.

This can be adjusted by increasing the strength either of the battalions or of the depôt, or by lengthening the period of recruit training.

- (c) With regard to the staff of native and non-commissioned Staff of Native Officers and officers ; these would be N. C. Os. seconded in their battalions for a fixed term and be especially selected for their ability as drill, musketry or gymnastic instructors.

As to the proportion of native officers and non-commissioned officers required, the following is suggested, supposing the depôt to be divided into 4 companies, and to consist of 432 recruits :—

- 2 Subadars.
- 4 Jemadars (company commanders).
- 1 Havildar major.
- 8 Havildars ($\frac{1}{2}$ company commander).
- 1 Quarter Master havildar.
- 16 Naicks (section commanders).
- 32 Lance naicks.
- 2 Lance Naicks (Quarter Master havildar's assistants).

This proportion as regards non-commissioned officers is less than that now usually employed on the drill and musketry staff of three battalions and considerably less than the numbers now left at the depôts of three battalions on service, *i.e.*, a saving of fighting material is effected Note 2, (Section I. 3.)

- (d) For the sake of brevity, depôt officers and stores will not be considered in detail. It is assumed that their formation will prove to be an insuperable difficulty, and as the scheme is to reduce battalion officers and stores it is contended that there will be no increase in the aggregate of officers and stores maintained.

Note 2.—If the period of recruit training were taken at 1½ years and the number of recruits reduced to 324 (*vide* Note 1) the strength of Native officers and non-commissioned officers could be reduced as under—

2 Subadars	6 Havildars	22 Lance Naicks.
4 Jemadars	1 Quarter Master havildar	2 Lance Naicks (Quarter Master havildar's assistants.)
1 Havildar Major	12 Naicks	Total 50.

Here the saving in material is considerable.

3. It will be observed that the formation of this regiment and central depôt—

- (a) Suggests no increase of the numerical strength now maintained (Note 3), and
- (b) As an extra expense only entails the provision and maintenance of accommodation for the depôt, the provision of extra staff pay for the three depôt officers (Note 4), a grant to cover initial expenses of forming an office and the pay of an establishment of followers for the depôt.
- (c) The present linked battalion system can be readily adapted to the scheme and no change in the distribution or location of battalions will be necessary.

SECTION III.

The method of construction of the regiment with its central depôt having been outlined, its functions will be considered in detail and the advantages which might be expected to accrue pointed out.

1. Enlistment. Recruits might enlist either for service in the regiment and might be allowed to select a particular battalion. Enlistment for the regiment should be encouraged as the simplest plan, but should not be insisted upon, as men naturally prefer to serve with their friends and relations.

It would be advisable to make rules by which recruits when trained could be drafted into any battalion needing them urgently on the understanding that they would eventually be transferred to the battalion of their choice.

The effect upon enlistment would be to widen the field, *i.e.*, men coming to enlist in a battalion for which there was no vacancy might be induced to enlist for another. Thus the whole regiment might profit by the popularity of an individual battalion. At present some regiments have no difficulty in obtaining recruits, while others are frequently short of strength. Under this scheme battalions should never be short of strength.

2. Recruit training. The system of training must be left to the depôt commander and for this reason it is advisable to place him above criticism by appointing an officer senior to battalion commanders.

Note 3.—It will be shewn later that it will not be necessary to leave one officer behind with a battalion depôt when the battalion proceeds on service. So the strength of battalions can be reduced by one officer, thus providing the 3 permanent depôt officers. As regards non commissioned officers and men, a decrease rather than an increase could be effected.

Note 4.—As the scheme is to materially reduce the work of the battalion staff some of the funds to meet the depôt staff pay might be obtained by proportionally reducing the staff pay and office allowance of battalions. *Vide* paragraph 3 of section III suggesting that the reduction of the work of battalion staff officers will be such that it may be possible for that work to be undertaken by one officer.

The fact that all men have been originally trained together will promote friendly feeling between battalions and will engender a common *esprit de corps* (Section I, 6).

Comparing this system with that now in vogue in battalions it is noticed that the instructors are selected from three times as large a body, also that they have fewer duties tending to distract their energies or attention from the work of recruit training. Thus they will become specialists in a way in which few battalion instructors ever become.

The dépôt Adjutant also will be able to devote to his recruits more of this attention than can the battalion Adjutant with his miscellaneous duties.

Thus we may reasonably hope for a greater efficiency in the training of recruits, and it may be noted here that the office of the battalion Adjutant is relieved of all records and correspondence, dealing with enlistment, musketry, and recruits generally. (Section I, 2.)

3. It is convenient to point out here how this scheme tends to produce uniformity in training, dress, etc., among linked battalions.

The dépôt commander by communicating his system of instruction will enable battalion commanders to adopt a common form of drill and movements. By becoming a centre for receiving and transmitting suggestions regarding training, clothing, necessaries, etc., made by battalion commanders as the result of experience, he can enable battalions to profit by each other's experience and to arrive at the most efficient system of training and organization (Section I, 6). Minor changes in clothing and uniform should not be made unless they have been submitted to votes of the three battalion commanders and the dépôt commander, and accepted by a majority. When accepted they should be universally adopted in the regiment. In the case of equality of votes among these four officers the case might be decided by higher authority. By this means uniformity is insured and ill-considered innovations are checked. (Section I, 5).

4. The central dépôt as a source of battalion supply and a centre of correspondence.

There will be maintained in the dépôt stores a sufficient supply of clothing, necessaries and equipment to meet the requirements of the three battalions. These stores will be obtained from the various departments, firms and other sources of supply and issued to the battalions on indent.

The advantages of this system are several:—

- (a) It would reduce the correspondence of the battalion Quarter Master's office to a minimum. He would no longer have to communicate with a variety of corps, departments and firms and be obliged to keep a corresponding number of files, ledgers and forms of indent, but would merely have to state his requirements in the simplest form to the Officer

Commanding Central Dépôt, who would comply with a minimum of delay and replace the articles in his store by indent on the source of supply.

- (b) In dealing with private firms it is obvious that by purchasing three times the quantity of an article more favourable terms can be obtained than can be at present by battalions purchasing individually.
- (c) It may be observed here that the system will also lessen work in the Supply and Transport Corps and Ordnance Department who will deal with regiments through the Officer Commanding Central Dépôt as a whole and not with individual battalions, *e.g.*, tents, equipment, clothing, boots, etc., would be supplied to the dépôt as a periodical allowance for the regiment and the depot Quarter-Master would account for the disposal of the same among battalions.
- (d) It would not be necessary to keep such large battalion stores; in fact, only such quantities as would meet immediate demands.

Thus the second improvement suggested in Section I is introduced, *i.e.*, a reduction of correspondence in battalion offices.

5. The central dépôt as a source of mobilization supply.

Complete mobilization stores and equipment for one battalion would be constantly maintained at the dépôt ready for instant despatch, and checked indents for the mobilization stores and equipment for a second battalion would be kept in the dépôt office.

It is unnecessary to point out how preferable this system is to that which exists, *i.e.*, pseudo-mobilized battalions, or battalions encumbered with an incomplete assortment of mobilization stores which they have eventually to hand over to the unmobilized battalions which are often selected for service.

On mobilization it would only be necessary for the battalion Commander to inform the Officer Commanding dépôt by wire and complete mobilization stores would be despatched immediately. The Officer Commanding dépôt would at the same time submit his checked indents to replace them in his stores (Section I, 4).

6. While considering mobilization it would be well to point out how the scheme will reduce the dislocation and the tendency to disorganization contingent with the formation of a depot by a battalion proceeding on service.

The battalion consisting wholly of trained soldiers would proceed on service *in toto*. The necessity of making a large number of new promotions, and of filling up the ranks with half trained recruits would be obviated.

Only unfit men and storekeepers in charge of kit, etc., not required on service would be left behind.

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Only unfit men and storekeepers in charge of kit, etc., not required on service would be left behind.

These men would be replaced either by trained soldiers from another battalion or by recruits who have practically completed their training at the dépôt.

The detachment not proceeding on service might be placed in charge of a senior Havildar and either sent to the dépôt or temporarily attached to the nearest native battalion (*vide* footnotes 5 and 6).

By this scheme it is claimed that the battalion offices will be so reduced as to consist of little else than that which now accompanies a battalion on service.

Thus it will not be necessary to construct a battalion dépôt office, and any records not required on service might be sent to the dépôt head quarters.

By these means the third improvement suggested in Section I is induced.

SECTION IV.

Before summarizing the advantages claimed for the scheme it would be well to attempt to foresee the changes produced in existing battalions and the benefits resulting.

1. It will practically relieve the battalion Adjutant of all his outdoor work, as he will have no recruits to drill or to train in musketry.

The instruction of men joining from the dépôt would be left to the Double Company Commander who under the Commanding Officer is the proper person to undertake all drill and training of men.

The Adjutant will then become in fact the confidential staff officer of the Commanding Officer. His office work will be decreased by all the records appertaining to recruits, their enlistment musketry training, etc., and will deal only with the pay of the battalion, discipline, and courts-martial, receipt and compliance with general or other orders, distribution of duties and promulgation of Commanding Officer's orders.

2. It is advisable that Double Company Commanders should have entire training and control of the men whom they will command on service. Uniformity in battalion movements should be ensured by parades under the Commanding Officer and not by afternoon parades under the Adjutant.

At present it must be admitted that a number of recruits under the orders of an Adjutant and non-commissioned officers being constantly taken for instructional purposes interferes considerably with a Double Company Commander's control of his charge.

Note 5.—In order to provide for the loss of these unfit men and storekeepers it would be advisable to maintain the battalions at slightly over-service strength.

Note 6.—In detailing battalions for service it might be found possible to detail first that battalion which is at or nearest to the dépôt station.

It would be advantageous to have always one battalion at dépôt head quarters.

It is a faulty system in which non-commissioned officers and men seek to find favour in the sight of the Adjutant and regard their Double Company Commander as of only secondary importance. This is not the fault of the Double Company Commander but that of a system which weakens both his influence and control.

3. A considerable reduction will also take place in the battalion Quarter Master's office. He will be relieved of the necessity of submitting many and complicated returns to corps and departments and of correspondence with private firms. His office will become considerably simplified and his stores reduced in bulk.

4. Taking into consideration the reduction of battalion staff work thus effected, it may here be suggested that it might be possible to replace the battalion Adjutant and Quarter Master by one officer who would have entire charge of the reduced battalion offices and would be also the confidential Staff Officer of the Commanding Officer.

This officer's work could be further reduced by decentralizing certain institutions and funds such as the range, canteen, etc., and handing them over to Double Company Commanders in turn. Double Company Commanders each have their own writers, and the additional clerical labour would be inconsiderable. The battalion office would be concerned with these funds only as regards their totals.

The parading of duties could be performed by the British officers of the week.

This suggested battalion Staff Officer would then assume the proper position of Staff Officer and confidential assistant to the Commanding Officer. He would not be, as the Adjutant is often now, the chief executive officer in the battalion.

By employing one officer instead of two, in addition to making another officer available for the practical training of men, it might be possible to effect a saving in the staff pay of battalions by some such arrangement as the following:—

<i>Existing.</i>				<i>Proposed.</i>			
		Staff Pay. Office Allowce.				Staff Pay. Office Allowce.	
		Rs.	Rs.			Rs.	Rs.
Adjutant	...	200	50	Battalion Staff Officer.		250	60
Quarter Master		150	30				
Total	...	430		Total	...	310	

i.e., a saving of Rs. 120 per battalion or Rs. 360 per mensem towards depôt staff pay.

5. As another beneficial change, it may be noted that a large number of drill, musketry and gymnastic instructors will be released for work with their double companies and the general practical training of the regiment will benefit. The staff pay of these instructors could be utilized for the central depôt staff.

6. The battalion being released from such encumbrances as recruits, heavy offices, etc., will be better prepared to proceed on field service.

In fact the battalion will be under nearly the same conditions and organization in peace as it would be in war. It is desired to emphasise this point.

7. It may be added that the centralization of the interests of the officers of three battalions will tend to confer certain social advantages contingent on numerical strength.

8. These being merely notes space does not permit of such questions as that of the band, mess, etc., being dealt with. The pipers to be included in the fighting ranks, thus effecting a further saving of fighting material.

The Band might be replaced by pipes.

SECTION V.

The advantages of the scheme may be finally summarized as follows.

1. *Increased efficiency of the battalion as a fighting unit.*—Due to officers and non-commissioned officers being less occupied with routine work and preliminary training of men, and being able to devote more time and energy to field practices. Gives the Double Company Officer a more effective control of his charge.

2. *Renders the battalion more ready and better fitted to take the field.*—It is unencumbered by recruits and heavy offices and is relieved of the necessity of forming a depot and leaving with it a number of non-commissioned officers and trained soldiers. It is on practically the same footing in peace as it would be in war.

3. *More efficient training of recruits.*—Due to specializing this duty.

4. *Reduced clerical labour and simplification of correspondence* in battalion offices.

5. *Accelerated mobilization.*

6. Induces uniformity in training, uniform, necessities etc., thereby increasing the power of battalions to mutually support each other on service. Checks ill-considered innovation.

7. Enables battalion Commanders to profit by experience gained by other battalions and to perfect thereby their own systems of training.

8. Promotes a common *esprit de corps*, induces a spirit of cordiality between battalions, and co-ordinates their interests to their common advantage.

9. The scheme could be carried into effect without increasing the numerical strength of officers and men now maintained and without altering the present distribution of battalions.

The expense entailed is inconsiderable, consisting only in the provision and maintenance of depôt accommodation, initial expenses for construction of depôt office, pay of depôt followers and extra staff pay of depôt officers. Part of the latter items might be covered by saving in battalion staff salaries.

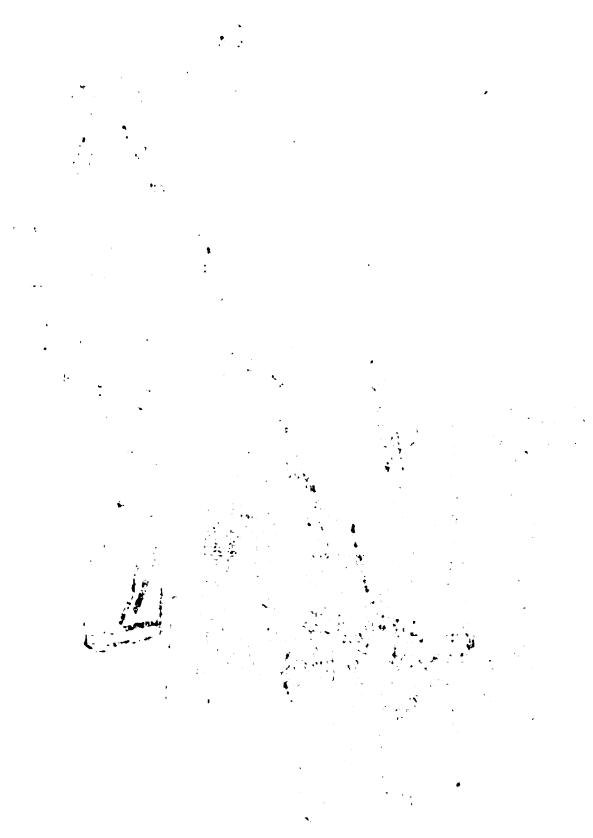
THE DISPOSAL OF THE WOUNDED OF CAVALRY.

BY LIEUTENANT-COLONEL H. G. HATHAWAY, R.A.M.C., MEDICAL
OFFICER WITH THE CAVALRY DIVISIONAL STAFF DURING THE
SOUTH AFRICAN CAMPAIGN—1899-1900.

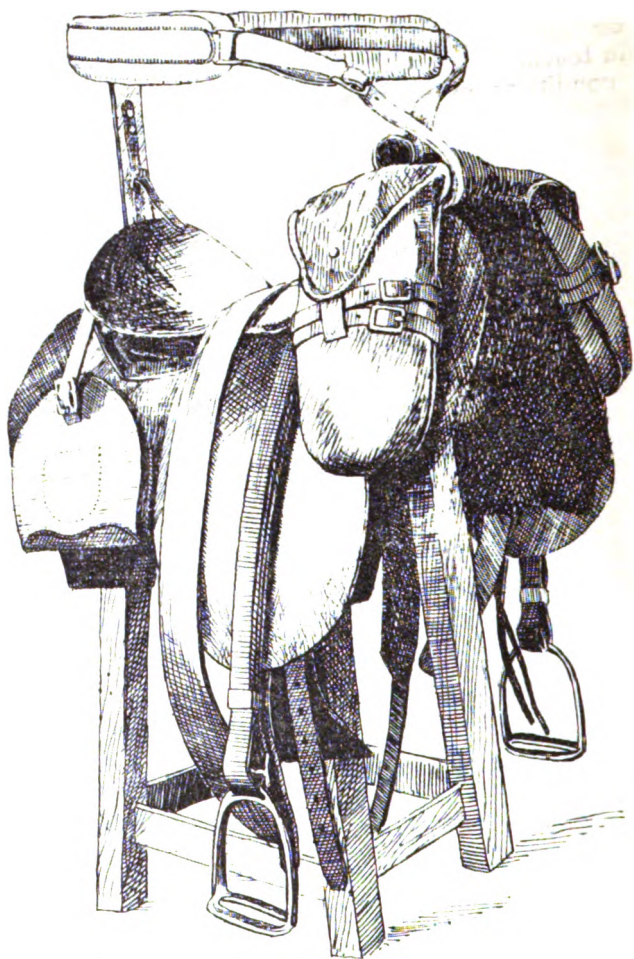
The disposal of the sick and wounded of mounted corps is a matter of such interest, and of such importance, extended far beyond the medical aspect of the matter that I have no hesitation in bringing it to your notice. A Military Surgeon desires that his seriously wounded cases should be carried, slowly, without jolting, and with a minimum source of fatigue to his patients : but he must so shape his arrangements for their transport, that the fighting work of the troops should be in no way hampered : to make war is one thing, to remedy its consequences of secondary importance : but the more free the hand to strike the shorter the work and, therefore, the more merciful the proceedings, to the majority concerned. It is most essential that nothing should hamper the movements of cavalry : mobility is practically the *raison d'être* of their existence, and rapidity of movement must receive constant checks if mounted fighting men are allowed to assist in making the necessary provision for the welfare of their wounded : so the duties of the cavalry do not admit of attention to their wounded on all occasions. The disposal of their sick and wounded must, in many cases and situations, be an altogether subordinated matter ; there is often no time or opportunity to do more than apply a first dressing, make them as comfortable as possible, under the circumstances, and leave them where they fell. Comrades can ill be spared to remain with the wounded to care for them or mark their presence to advancing bearer companies, or to ride about in search of slow moving ambulances. It would be better, therefore, for the cavalry and their wounded if we consider the matter from the extreme hypothesis that cavalry cannot be allowed to look after their wounded, even to prevent mutilation : clearly, then, separate, special aid should be provided, removing the whole responsibility of the care of the wounded from the cavalry. This would altogether prevent their being hampered, but there must be no division of the responsibility of looking after the wounded ; for, if any of the cavalry are told off to tend the wounded other comrades may think it incumbent on them to remain with them : whereas if adequate separate aid is provided the inclination to fall out and remain with wounded comrades could be absolutely prevented, and fairly forbidden ; for the knowledge would be patent to all that the best provision possible was being made for the wounded and that no responsibility rested with the fighting mounted men. The cavalry leader's hands would be indescribably freed : the numbers in the fighting line would be much increased ; the many extra casualties that occur, when withdrawing mounted, would be much reduced ; the men who now under fire make heroic efforts to assist their wounded comrades to improvised ambulance, with much unnecessary delay, would under the scheme that I suggest be all in the fighting line, not often even delayed by covering the retirement of the wounded ; for they would

have been promptly gathered by skilled bearers : and would have been at once conducted off to the nearest Field Hospital. A wounded man is a damage to the fighting machine, and our object should be to repair the injury as soon as possible without further detriment to the working of the machinery ; in fact, from the military point of view, there must be no question in the matter ; the carriage of the wounded is only a mere detail, compared with the importance of the success of the fighting machine. The mounted man goes on active service, glad to take many sporting risks. With small parties with which it is impossible to send a medical man he may, when wounded, suffer from inadequate surgical attendance : if comrades cannot remain with him, when wounded, he may be quite unavoidably altogether abandoned, or there may be much delay in finding him and bringing him for proper treatment : or he may be captured by the enemy simply because he cannot be carried off, when wounded. I wish to demonstrate how these risks may be greatly reduced, if not totally prevented, by making arrangements for rapidly moving ambulances. The quicker the wounded are disposed of the more men there will be in the fighting line. Comrades who group themselves round the fallen are all the time very obvious to the enemy : so more casualties result : and during the delay caused by withdrawal of wounded the position of the force may be unnecessarily disclosed to the enemy : or there may be great delay in returning with the information that the cavalry went in search of. Under the conditions of modern rifle fire and antiseptic surgery the wounded, if gathered, may shortly recover to fight again in the same campaign instead of becoming prisoners of war.

Whilst here, in the East, we do not fight under the terms of the Geneva Convention, the removal of our wounded is a necessity to prevent torture, murder, and mutilation. The more protracted the retirement of the wounded the larger number of casualties in consequence. There is, then, every reason to show that the wounded should be removed as soon as possible : if a force is proceeding rapidly, if it is isolated, or when it is retiring. No surgeon would advocate the removal of a badly wounded man at the gallop, thereby adding to his disability, but even this must be done sometimes to prevent further casualties, and to remove wounded from savage foe. It may be taken as a very true and excellent axiom, that mounted troops require transport that can proceed when not loaded with wounded as quickly as the corps to which it is assigned for duty ; not only should the transport be within touch ready to take up sick and wounded, but after the necessary delay which occurs, in looking to dressing, treating the sick, and loading them in wagons, there is often much ground to make up in order to regain the corps to which the ambulance belongs, and which may require its services. When cavalry are moving some distance, and are spread over a wide front, the ordinary bearer company attached to a Cavalry Brigade is often out-distanced, from the beginning of the day. Rapidly moving ambulances would save time to succour the wounded over a wide range. Again there would be less and less need of these improvised ambulances constructed out of gun limbers, and other unsuitable means



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To illustrate The Disposal of the Wounded of Cavalry,
by Lt.-Col. H. G. Hathaway. R. A. M. C..

which it is sometimes necessary to call in aid, to prevent abandonment. In a good climate, with fine weather, there is no necessity to place wounded men, at once, in ambulance wagons, for if they have had their wounds dressed and have received necessary treatment, they suffer no ill effects or hardships by remaining on the ground for a time; indeed some cases may benefit by a rest immediately after being wounded. But when mounted troops are operating, their sick and wounded must usually be disposed of rapidly, otherwise the general advance will be checked, to permit of the ambulance transport keeping within touch.

Different conditions of warfare, and the varied nature of the country to be operated over, necessitate that there should be varied forms of ambulance transport even in a single campaign. All forms of transport for the sick and wounded are valuable in their different methods of carriage, but like must go with like, and just as large numbers of stretchers will always be required for clearing battlefields to wagons on road or rail, so the mounted corps must have their rapid ambulance transport, for there can be no point in making ambulance arrangements for a corps if a trot will separate it from its bearer company, and in the daily efforts made by slow moving wagons to keep in touch with mounted corps. The draught animals can never remain efficient in their overstrain and short time for feeding. Another form of ambulance transport is required: it must be able to do its work, efficiently, without losing touch altogether with mounted corps, and without destroying its animals: therefore, it must be strongly horsed, with sufficient animals to put in the shafts when the cart is full. There will be nobody connected with this ambulance on foot, partly because the carts have to go about quickly, when empty, and partly because for the men to be efficient they must be mounted, for they often have to work far into the night, and this cannot be done efficiently after marching many miles on foot after cavalry, in addition to performing duties all day: none but patients should be allowed to ride in the carts, for our object is to reduce weight and make the wheeled ambulance transport that has to keep close behind cavalry when not loaded up as mobile as possible. Cavalry very often operate over ground where wheeled transport is unable to remain with them. The recommendations of the Committee directed to consider Sir Thomas Gallwey's Medical Report, on the Campaign in Natal, 1899-1900, British Army in the Field, state:—

“But on service, cavalry patrols and posts will often be beyond reach of Bearer Companies and Field Hospitals, and any practical means by which wounded and injured men can be brought in for treatment is worthy of attention.” I propose to deal with such cases first: the men wounded on patrols, etc., where wheeled transport, however mobile, cannot be expected to reach them. A contrivance called a “saddle crutch,” invented by myself, has recently been tried at Simla in the presence of His Excellency the Commander-in-Chief, the Principal Medical Officer, His Majesty's Forces in India, and the Inspector-General of Cavalry, and the expression of their approval was unanimous. Briefly described, the ‘saddle crutch’ consists of a semi-circle of light metal, padded inside and leather covered: it has two large D's at its front extremities and metal

leather-covered upright fixed at right angles to the middle of the semi-circle behind. When the wounded man has been assisted to his saddle this upright is placed in the crupper D of his saddle : it keeps the support at the right height, on the wounded man's back and prevents lateral swaying. A stirrup-leather is threaded through the two D's in front and through the middle of the wallet strap, then it is buckled and the wounded man is supported comfortably and he can relax his leg grip : if he wishes to dismount without assistance, he unbuckles the strap in front of him : if a man becomes unconscious, whilst in the support of the crutch, he cannot fall out of the saddle. In the construction of this support, the type of a comfortable upright chair is taken, because it is better both for the man and the animal that he rides that he should maintain as far as possible the normal position in the saddle. If he reclines his legs cannot be comfortably kept down to the stirrups, but must be raised towards the animal's withers in inverse proportion to the descent of his back. This makes the rider insecure and upsets the balance on the animal, the whole of the weight being on the top of the back instead of being distributed down the sides of the saddle, and the girth difficulty is much increased. Cavalry patrols and small posts should be furnished with a sufficient number of these saddle crutches : carried, ready for use face downwards on the back of a led horse ; there is no intention to add to the already heavy weight carried by the troop horse. When a man is wounded, he is assisted, with as little delay as possible, to his own saddle : the crutch is afterwards applied. He can then be removed at any pace necessary without any fear of his leaving the saddle, for he is securely fixed there by the supporting crutch. The sick and slightly wounded of mounted corps who are attending field hospitals and who are not ill enough to be transferred to the base could go along on their own horses made comfortable by these saddle crutches. Although primarily intended for use with cavalry patrols and small posts, the saddle crutch should also be applied to the saddle of every one of the riding ponies of a field hospital and not intended necessarily for the wounded of mounted corps. The men who make use of these riding ponies are sometimes quite unaccustomed to horses, so often have a most uncomfortable time in the saddle due to the strain of sitting up without support when ill, and from having to maintain an often unaccustomed grip of the saddle. Support in the saddle to the back greatly relieves the strain of leg grip and by preventing swaying gives confidence to those who have not used a saddle before or recently, and thereby much increased comfort results. Several muscles are kept at rest, instead of being on the alert as must always be the case when a man untaught to ride is put up in the saddle for a march. To return to the use of the saddle crutch for the cavalry, it permits of rapid removal of all wounded in face of a savage foe, for even an insensible man can on emergency be carried. Thus, also, all men who can go along on their own horses can, with the saddle crutch supporting them, do without lying down accommodation. The wounded who do require to be carried reclining or who have lost their horses by wounds, or otherwise are taken along in special carts to be subsequently described. They either lie on stretchers or sit up according to the requirements of each case.

The detachment of each cart is composed of five mounted men all carefully instructed in first aid to the wounded. A single cart with its detachment should form the peace footing ambulance establishment of a regiment of Cavalry, but when mobilization for war takes place, similar extra carts, each with detachments of five mounted men, are required to connect between the regiments and the field hospitals, and extra bearers are required with the fighting line. The number of extra carts required would depend upon the number of Cavalry engaged, the distance they would be likely to be separated from field hospitals, or the time that the force would be wholly isolated and have to carry its wounded along with it. One cart for every squadron of Cavalry would be a proper proportion for troops on active service, and the extra carts with their detachment would be drawn from regiments not mobilized : to make up the necessary number for the mounted force proceeding on active service. The carts proceed behind the troops in action, keeping touch all the time without being unnecessarily exposed to fire. When empty, they are drawn by two horses driven from the saddle by one man of the cart detachment ; the other four men of the detachment ride forward with the troops, one man carrying a cart stretcher supported in a saddle-bucket. They render first aid to the wounded, superintend the adjustment of the supporting crutches to the saddles of the wounded, who are able to ride their own horses back to the field hospital, or if any lying down accommodation is required they place the wounded on stretchers, and convey them to the carts halted near at hand, in a place of safety. The mobile carts would never proceed well up into the fighting line. Stretchers and saddle crutches would be in use under fire. Medical officers would make provision for the removal of the wounded, and arrangements would be controlled by all movements contemplated, whether of advance, or retirement. For example, supposing that a regiment had several badly wounded men, and a rapid retirement of the force was about to take place, there would be sixteen bearers with the corps in action. One cart would not be moved off at once, when loaded up with its four stretcher cases, for its cart detachment would be employed in first aid to wounded, and would be assisting to load up the other carts, so as to expedite the removal of all the wounded. Again, the four stretcher parties would not leave for the carts, all at the same time, unless all the wounded had been disposed of, otherwise subsequent casualties would leave no one to afford first aid to them until the return of the bearers to the fighting line. The proper arrangement would be to place the seriously wounded on stretchers, and carry them off to the mobile carts in turn, so as to insure that, at least, one detachment remains with the fighting line. If the country is very open, and the carts therefore some distance away, the return of the stretcher parties will be expedited by their horses going with them back to the mobile carts. Two dismounted bearers would be carrying stretchers and two mounted bearers would be leading their horses for them. Having placed their wounded men in the carts they would gallop back to the fighting line, with a rolled up stretcher as the cart receives more occupants. Another pair of horses is put in yoke, one man of the cart detachment giving up his horse for the purpose, and then riding that of a wounded man, the owner being carried in the cart ; and, further, when the cart has received its

full burden, and if the nature of the ground also renders it advisable, a third pair of horses can be put in yoke, under the same conditions. Then the cart goes off to the field hospital, and having there discharged its occupants, it rejoins as quickly as possible. During its absence other carts have been in touch with troops, receiving wounded and thus communication is kept up for the wounded, between the fighting line of Cavalry and the nearest field hospital. Whilst, if the mounted force is isolated, the cart when loaded up with wounded proceeds as slowly as possible for them to be allowed to do so, to safely keep touch with troops. Of course, in civilized warfare, they could take the nearest good road to a hospital, independent of any escort. The six horses of each cart should be of the same stamp of animal as used for cavalry and should be carefully broken to harness.

With regard to the personnel—the orderlies of the cart detachment :—For British Cavalry out of India, men of the Royal Army Medical Corps could form cart detachments, grouped, in war time, as mounted bearer companies, replacing ordinary bearer companies for Cavalry, and taking over also the regimental bearer work. In India, for British and Native Cavalry, instead of taking men from the ranks for purely non-combatant work, in peace or war time, it would be much better to enlist men purely for the purpose of tending the wounded in war, and acting as sick orderlies in hospital, in peace time. The numbers required are so very small if every regiment has one cart in peace time, and only five men are required for the cart detachment, so eight men in every regiment would be quite sufficient, the three extra being to replace casualties, or to be left behind, for hospital duties with the sick, when the regiment proceeds on active service or the cart with detachment is required for active service (although the regiment is not itself proceeding to the front). The orderlies could be enlisted in India from British, Eurasian or native sources. I consider the system particularly applicable to the Native Cavalry of India, doing away with the necessity of detailing sowars for duty in the regimental hospitals as sick orderlies : whilst with British Cavalry the cart detachment orderlies could be well employed in nursing, in the Station Hospital, but they should be purely regimental, doing a reasonable turn of stables and riding school, for being able to ride and look after their horses is as important in their training as the aid to the wounded in which they will be thoroughly instructed.

My system is not so much to create a new corps of mounted bearers as to be able to absolutely separate the duties of the Cavalry from the care of their wounded : and for this responsibility to be handed over to the mobile cart detachments. The cart is a very important feature of the scheme, it must provide accommodation for as many wounded as possible, so as to reduce in numbers the carts necessary to accompany the Cavalry Brigades. It must be light, and nothing unnecessary should be carried, so as to keep down weight and increase mobility ; the wheels and springs must be very strong, for the carts will often have to travel when not loaded up with wounded over bad ground ; in fact any country that artillery can safely proceed over.

When there are lying-down cases in the carts they must of course pick their way as far as is possible. No form of carriage could be suitable for every country that we operate in. Since the late War in South Africa, there is naturally a diversity of opinion about the

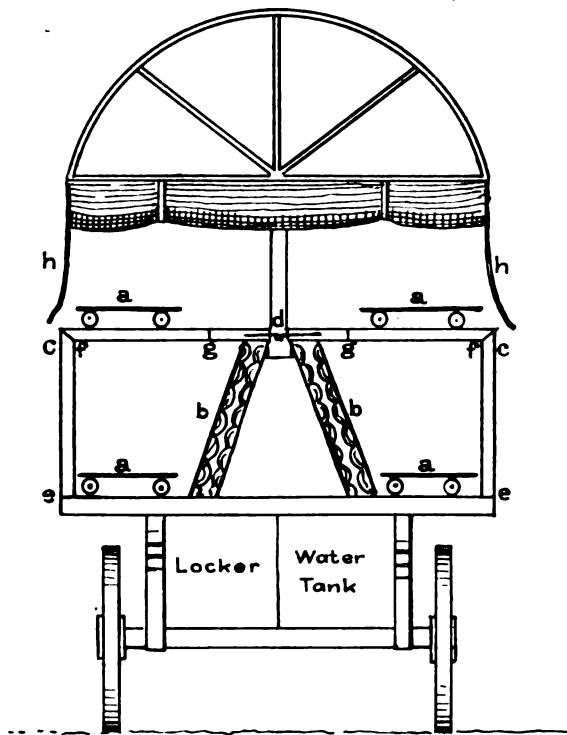
form that the cart should take, but that country has given us valuable experience that confirms the opinion that rapid ambulance is required wherever mounted troops operate quickly, but we must not organize our ambulance to suit South Africa only. Our carts must not be drawn by a long team of mules, because they want less food than horses and can survive almost anything. The difference of ambulance moving rapidly or slowly is dependent on lightness of weight to carry and efficiency of men and horses; the former must be secured by a suitable cart and the latter by well trained men and a proper style of horses, sufficiently fed and not overworked. The wagons of the New South Wales Medical Staff Corps, used in South Africa, were of the same type as our own of English make, but each vehicle was drawn by six powerful animals that would have formed a very fair gun team, and doubtless the efficiency and condition that they displayed were greatly due to the wagons being so well horsed. They could travel quickly when required and did splendid work in picking up outlying wounded, and on account of the power and quality of animals in draught, always seemed to have something in hand. Khan Bahadur Dhanjibhoj presented tongas for ambulance purposes; they did exceedingly well with the Cavalry in some parts of South Africa and were undoubtedly successful, but great care was required in harnessing the ponies, for the bar arrangement was proved to give some animals sore bellies and backs, and in rough country they travelled no better than the large ambulances, whilst the fact of the vehicle being very low, although an advantage in moving and handling patients, rendered the tongas quite useless in rough bushy country, where they had to be discarded. The Cape Colonial Government purchased two "mark II" ambulance carts from Woolwich in 1896. The next year during the native rebellion in Bechuanaland the sick and wounded had to be moved many miles, and these carts were invaluable, they were also used up to the termination of the Transvaal War and were called "galloping carts." With Goringe's column there were fine locally built hooded wagonettes known in the country as "horse wagons," they were very strongly built, and with good springs, but altogether lighter than our present ambulance wagons. These with six mules went everywhere that the guns went and were able to keep up with the ammunition with no difficulty; they could travel carrying two men lying down, or six sitting up with their kits, and three days' forage for mules. The Canadian Field Hospital in South Africa took out light prairie wagons which proved very useful for all fast work during 1902 with General Walter Kitchener's force in the Western Transvaal. These wagons built in Canada by the Ottawa Car Company had just the requirements needed, *vis*, great strength and lightness (weighing about 9 cwt.) and capable of carrying four recumbent patients, or twelve sitting patients. It will thus be seen that a strong light wagon can be constructed to carry a large number of patients. The prairie wagons could go through places that the Indian tongas were stopped at, and were much easier in crossing rough ground. A four-wheeled ambulance is useful to house patients in when bivouacked, a great consideration with cavalry.

On balancing the varied evidence adduced as to the suitability of the different vehicles used in South Africa, for rapid ambulance work, one finds that the tongas were very suitable over fairly even ground, but did not carry a sufficient number of patients for our work, and that a two-wheeled vehicle is inconvenient for housing patients in; also, it is difficult to so adjust the balance of a two-wheeled vehicle

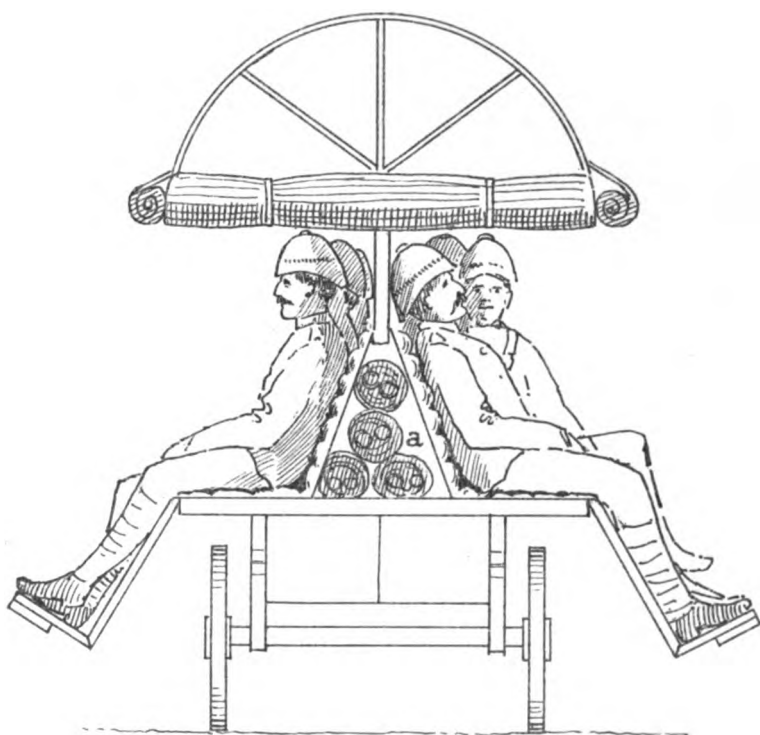
so as to prevent the animals in draught from having sore bellies and sore backs. The best results with regard to mobility and number of patients comfortably carried seem to have been attained by light strong carts on four-wheels. A model* of what I consider a suitable cart for rapid ambulance work has been sent to the carriage factory at Jubbulpore to be reproduced full size, for trial. It consists of a light strong platform on strong springs over four wheels; the sides of the car hinge down, Irish car fashion, cushioned seats let down from the middle of the platform providing comfortable sitting accommodation for four cases, on each side there is a seat in front for two more cases. A double awning cover, supported on uprights in the centre of the platform, allows stretchers to be loaded from each side, without any obstruction. The sides and seats would be hinged up, when stretcher cases are carried, and one stretcher would rest on the platform on each side and another stretcher would be placed above on each side on the foot board that has been hinged up and has been secured to the centre of the cart. It will thus be seen that the cart could carry four lying-down cases, all easily got at, from the sides and two sitting-up cases in front, or ten sitting-up cases, or two lying down on one side, and six sitting-up cases. Stretchers would be carried when not in use rolled up between the seats in the centre of the cart. Lockers underneath the cart carry the patients' arms, a two-gallon water tank, also a small amount of necessary equipment. The orderlies carry surgical havresacks and belts of compressed drugs and canvas water-bottles. In 1899, the then Commander-in-Chief, Lord Wolseley, in remarking on the medical arrangements during the autumn manœuvres of that year stated that a special pattern of light ambulance is desirable to accompany mounted troops. So far back as 1892, Colonel Williams, the Principal Medical Officer of the New South Wales Military Forces went into the details of a mounted ambulance service, to meet the rapid movements of cavalry, and suggested the organization of a certain number of mounted bearer companies with light ambulance wagons. The development is particularly required by mounted corps in India, for their sick cannot be left in the nearest farm-house for friend or foe to succour. In advocating any drastic change or innovation it is necessary to clearly demonstrate the advantages to be gained. At little or no extra expense to the State, mounted corps are rendered far more mobile, in that they are relieved of attention to their wounded who are removed, rapidly thereby reducing the number of casualties; in fact, the necessity of having rapid ambulance transport for cavalry is so obvious that it is unnecessary to further detail the advantages thereby secured in mobility for the fighting men and succour for the wounded.

The necessity of these special rapid ambulance arrangements only applies to mounted corps, that may have to operate rapidly, and every cavalry regiment expects sometimes to fight over ground where it is able to proceed rapidly, otherwise it would be unnecessary to mount the regiment. So ambulance arrangements are made for the best pace the regiment can go at: they replace dhoolies in peace time on manœuvres and the system produces hospital orderlies well trained to care for the sick. Here, in India, there is certainly no intention of suggesting even that any alteration should be made with regard to field hospitals, British or Native. The scheme suggested disposes of the sick and wounded of cavalry, and by a short line of mobile cart communication, removes them to the field hospital.

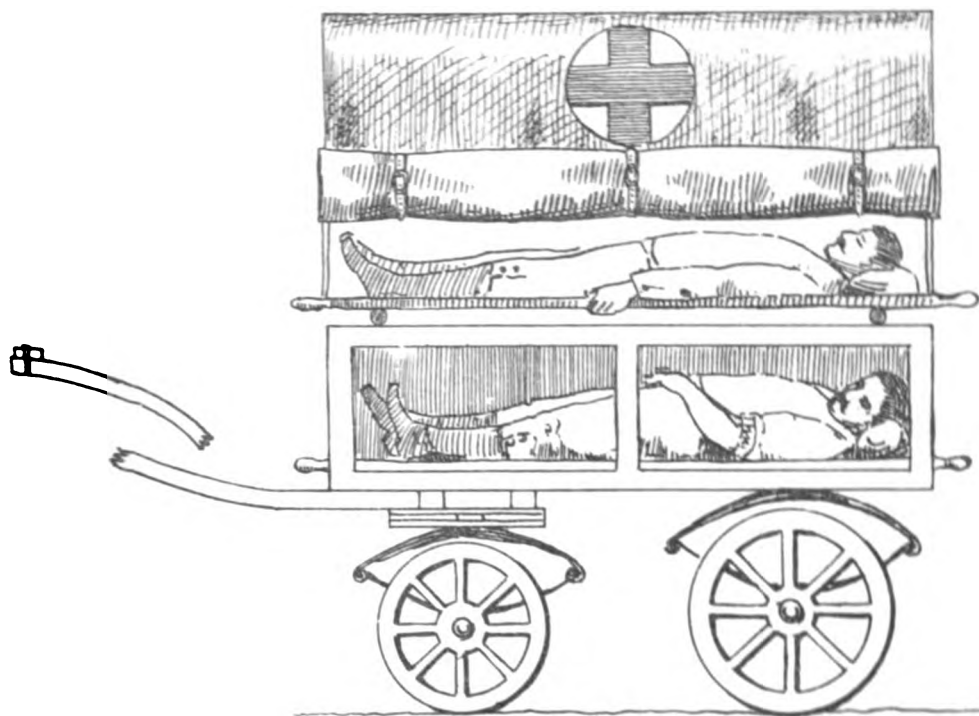
* Please see diagrams.



End elevation showing four stretchers ready for use and the seats folded up (a), the stretchers (b) seats folded up, (c) The foot boards folded up and hooked at (d) hinged at e. f. and g. (h) side flaps lowered



**END ELEVATION.—Showing seats in use Flaps rolled up.
(a) Stretchers rolled up and placed between backs of seats.**



SIDE ELEVATION.—Stretchers in use seats folded up. The foot board is hinged up and hooked to centre of cart, thereby forming platform on which upper stretcher is placed. The stretchers are secured to cart, and patient in upper stretcher buckled on it.

PRÉCIS OF FOREIGN MILITARY PAPERS.

FRENCH PAPERS.

Revue de Cavalerie.

May.—Perhaps the most interesting of the French Military publications is the *Revue de Cavalerie*, which generally contains at least one instructive paper dealing with the mounted arm. The May issue is no exception. It commences with an article on "Cavalry and the exotic school," which deals with the rôle of cavalry in modern war in the light of most recent experiences.

The writer, like most competent authors of the present day, deprecates the modern tendency to decry the rôle of cavalry, and the substitution for it of mounted infantry. He truly says, "in all times the rôle of cavalry has been contained in three words to 'explore, cover, fight'; and so long as war exists, this rôle will subsist. He concludes with the following quotation from Von Kleist—"Those who imagine that they can to-day command with a certain minimum of cavalry enormous masses of troops, which require an extraordinary space in which to move and subsist, have never cast a *coup d'œil* over the complicated machinery of the movements of an army. To weaken cavalry in order to reinforce the infantry and artillery in the same proportion would be to clip the wings of the eagle in the chimerical hope that its claws will grow better."

A Chief of Cossacks in the campaign of 1813.

This is a continuation of an interesting autobiography, commenced in a previous issue. In it the reader will find an account of the manner in which information was obtained and transmitted by these excellent reconnoitrers, how difficulties were encountered and overcome, and how successful raids were carried out.

A perusal of the paragraphs dealing with the march upon and surprise of Herzberg, and the defence of the defile of Kosen may be recommended.

The evolution of Modern Cavalry.—Those who have read the series of papers on this subject by Colonel Maude in the *United Service Magazine*, may find it interesting to compare the views of a continental writer. The present paper deals with "the combat on horse-back," and "the co-operation of cavalry with the other arms." The subject was commenced in a previous issue.

June.—This number commences with a paper on "Cavalry of the future" dealing with the armament and employment of mounted troops. The author does not favour the retention of the lance, "the queen of weapons" in the time of Marshal Saxe. At the battle of Dresden an infantry square was broken with the aid of the lance when bayonets had kept sabres at a distance. Nowadays we shall not see squares on the field of battle except in savage warfare.

The evolution of Modern Cavalry.—This final paper of the series deals, with "the means of protecting cavalry from the effect of fire." There is also a conclusion worth perusing, from which the following may be quoted :—

"To form scouts, to form marksmen ; to know how to fight as well on horseback with cold steel as on foot with the carbine, as well in great masses with serried ranks as in units in extended order ; to possess individuality, initiative both in men and officers, rapidity, mobility, and suppleness of units to an ideal perfection ; finally to learn how to utilise the formation of the ground ; that is the programme."

A Chief of Cossacks in the campaign of 1813.—Continues his interesting account of frays and forays, of surprises, attacks, and retreats ; with regard to the latter the "order of battle in retreat" is especially instructive.

July.—We probably have not much to learn from the French regarding *the use of the sabre on horseback*, which forms the subject of an article with numerous illustrations in this month's issue. Another paper deals with the *transformation of cavalry*, and one with *Cavalry mitrailleuses*.

The Cossack Chief concludes his personal reminiscences, dealing with the Combat of Reichenbach, the death of Duroc, and various other matters. He describes how he and his cossacks captured two companies of French artillery in the very centre of their army.

The Revue de Cavalerie—Shows what a great number of Military steeplechase take place in France ; these are reported in each issue, and seem to show that the French Cavalry are ahead of us in this useful form of sport.

Revue de Paris.

The July number contains papers entitled *The invisible enemy*, dealing with the campaign in Tonkin ; *The conquest of the Air*, in which Baron de Mauni gives us what he considers the actual condition of the problem, the solving of which will revolutionise warfare, as it will eliminate mountains and other obstacles to the march of armies. In the August number papers on *The Emperor of Corea* and *Military life in Italy* will repay perusal.

Journal of Military Science.

In the June number a paper on *The employment of Reserves on the Field of Battle* may be read. It is entirely historical, dealing with the Napoleonic battles of Marengo, Austerlitz, Jena, and Auerstadt. As the article is to be continued it will doubtless discuss the bearing of modern conditions on the question under review.

In view of our proximity in Africa with the French possessions, and of the question of Morocco, a paper in the number on *The African battalions and their actual organisation* may be found interesting.

Revue du Cercle Militaire.

A short paper in the issue of 6th June on *The grand Japanese Manœuvres of 1902* is of topical interest. An article on *The English nation and army* is also interesting. In the number for June 13th is commenced a paper on *The Canal of the Two Seas*. This relates to the project which contemplates the construction of a canal across France from the Atlantic to the Mediterranean which, if carried into effect, would enable the French to turn Gibraltar. The article, continued in the succeeding issues, is illustrated with plans showing the course of the proposed canal, and with sections showing its depth and breadth. The issue of 11th July contains an article on *the influence of Artillery on the Moral of troops*; in that of the 18th the paper on the projected canal across France is concluded.

The Modern Japanese Soldier--The 25th July number deals with a subject of constant and increasing interest. The author appears to consider that the rapid intellectual development of the Japanese has tended towards their physical degeneration. He points out that the number of conscripts physically fit for service is not more than 20 per cent., in the vicinity of Tokio. Where then, he says, will be found sufficient men able to bear arms?

R. G. BURTON, *Major.*

GERMAN PAPERS.

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2. *The battle of Inkerman and the defence of Sevastopol.*—This is the concluding article of the series. The following summary of "factors that influenced the result of the battle of Inkerman," as deduced by the author may be instructive:—

- (1) The (Russian) Commander-in-Chief had not a chief of the staff, a genuine assistant, a devoted adviser, ready to fulfil all his undertakings.
- (2) He had no quartermaster-general practised in carrying out plans of campaigns and battles.
- (3) He had neither the maps nor plans necessary for making his dispositions. Reconnaissances could not make up for the absence of maps and plans.

- (4) Owing to unforeseen circumstances he did not place his reliance in General Danenberg, the Corps Commander.
- (5) The troops had not long-ranging and quick-firing arms.
- (6) The troops and their commanders were acting on ground unknown to them.
- (7) The locality presented every advantage for the adversary—it was, as it were, naturally fortified, and on the contrary was entirely unfavourable for us (the Russians).
- (8) The instruction of our (the Russian) troops had not been in accordance with the requirements of the tactics of the time, because it based the entire success of the battle on the bayonet, and did not ascribe sufficient importance to musketry. The author, however, finally comes to a conclusion that the battle of Inkerman was "an actual victory" for the Russians. Through the tortuous intricacies of the reasoning by which he arrives at this astounding result it is impossible to follow him here. I believe there have not been wanting Frenchmen to claim Waterloo as a French victory!
- (9) *Losses and their consequences* is a review of the casualties in various battles, which the statistician may find instructive.
- (10) *Notes on the Austrian Infantry*.—In this number gymnastics and musketry are dealt with, but it does not appear that we have much to learn from the Austrians in either of these subjects.
- (11) *The military training of the Sotnia*.—Further chapters on this subject deal with section leaders, scouts, young Cossacks, and various phases of instruction. The first chapter in this number contains some interesting observations on the Cossack *Lava*, which has frequently been dealt with in the pages of this *Journal*, and which was fully described, from both a historical and tactical point of view, by the present writer in the *United Service Magazine* for September 1896.
- (12) Here we have a very interesting paper on the instruction of the French field artillery, illustrated by diagrams; followed by some observations on field fortification. The author of the latter article dwells on the necessity and importance of intrenchments, holding that it is no less requisite to teach soldiers to use intrenching implements than it is to instruct them in the use of the rifle. He concludes—"Tactics and field fortification must go hand in hand, and in that close mutual connection the troops must find one of the best methods of contending with modern small arm and artillery fire."

R. G. BURTON, *Major*.

Prize Essay Gold Medallists.

- 1872.....ROBERTS, Lieut.-COL. F. S., V.C., C.B., R.A.
- 1873.....COLQUHOUN, Capt. J. A. S., R.A.
- 1874.....COLQUHOUN, Capt. J. A. S., R.A.
- 1879.....ST. JOHN, Maj. O. B. C., R.E.
- 1880.....BARROW, Lieut. E. G., 7th Bengal Infantry.
- 1882.....MASON, Lieut. A. H., R.E.
- 1883.....COLLEN, Maj. E. H. H., S.C.
- 1884.....BARROW, Capt. E. G., 7th Bengal Infantry.
- 1887.....YATE, Lieut. A. C., 27th Baluch Infantry.
- 1888.....MAUDE, Capt. F. N., R.E.
- YOUNG, Maj. G. F., 24th P. I. (specially awarded a silver medal).
- 1889.....DUFF, Capt. B., 9th Bengal Infantry.
- 1890.....MAGUIRE, Capt. C. M., 2nd Cav., Hyderabad Contingent.
- 1891.....CARDEW, Lieut. F. G., 10th Bengal Lancers.
- 1893.....BULLOCK, Maj. G. M., Devonshire Regt.
- 1894.....CARTER, Capt. F. C., Northumberland Fusiliers.
- 1895.....NEVILLE, Lieut.-Col. J. P. C., 14th Bengal Lancers.
- 1896.....BINGLEY, Capt. A. H., 7th Bengal Infantry.
- 1897.....NAPIER, Capt. G. S. F., Oxfordshire L. I.
- 1898.....MULLALY, Maj. H., R.E.
- CLAY, Capt. C. H., 43rd Gurkha Rifles (specially awarded a silver medal).
- 1899.....NEVILLE, Col. J. P. C., S.C.
- 1900.....THUILLIER, Capt. H. F., R.E.
- LUBBOCK, Capt. G., R.E. (specially awarded a silver medal).
- 1901.....RANKEN, Lieut.-Col. G. P., 46th Punjab Infantry.
- 1902.....TURNER, Capt. H. H. F., 2nd Bengal Lancers.
- 1903.....HAMILTON, Maj. W. G., D.S.O., Norfolk Regt.
- BOND, Capt. R. F. G., R.E. (specially awarded a silver medal).

MacGregor Memorial Silver Medallists.

- 1889.....BELL, Col. M. S., V.C., R.E. (specially awarded a gold medal).
 1890.....YOUNGHUSBAND, Capt. F. E., K. Dn. Gds.
 1891.....SAWYER, Maj. H. A., 45th Sikhs.
 RAMZAN KHAN, Havildar, 3rd Sikhs.
 1892.....VAUGHAN, Capt. H. B., 7th Bengal Infantry.
 JAGAT SINGH, Havildar, 19th P. I.
 1893.....BOWER, Capt. H., 17th Bengal Cavalry (specially awarded
 a gold medal).
 FAZALDAD KHAN, Dafadar, 17th B. C.
 1894.....O'SULLIVAN, Maj. G. H. W., R.E.
 MULL SINGH, Sowar, 6th B. C.
 1895.....DAVIES, Capt. H. R., Oxfordshire L. I.
 GUNGA DYAL SINGH, Havildar, 2nd Rajputs.
 1896.....COCKERILL, Lieut. G. K., 28th Punjab Infantry.
 GHULAM NABI, Private, Q. O. Corps of Guides.
 1897.....SWAYNE, Capt. E. J. E., 16th Rajput Infantry.
 SHAHZAD MIR, Dafadar, 11th B. L.
 1898.....WALKER, Capt. H. B., Duke of Cornwall's L. I.
 ADAM KHAN, Havildar, Guides Infantry.
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 MIHR DIN, Naik, Bengal S. and M.
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 SUNDER SINGH, Colr. Havildar, 31st Burma Infantry.
 1902.....RAY, Capt. M. R. E., 7th Rajput Infantry.
 TILBIR BHANDARI, Havildar, 9th Gurkha Rifles.
 1903.....MANIFOLD, Lieut.-Col. C. C., I.M.S.
 GHULAM HUSSAIN, Dafadar, Guides Cavalry.

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The evolution of Modern Cavalry.—This final paper of the series deals, with "the means of protecting cavalry from the effect of fire." There is also a conclusion worth perusing, from which the following may be quoted :—

"To form scouts, to form marksmen ; to know how to fight as well on horseback with cold steel as on foot with the carbine, as well in great masses with serried ranks as in units in extended order ; to possess individuality, initiative both in men and officers, rapidity, mobility, and suppleness of units to an ideal perfection ; finally to learn how to utilise the formation of the ground ; that is the programme."

A Chief of Cossacks in the campaign of 1813.—Continues his interesting account of frays and forays, of surprises, attacks, and retreats ; with regard to the latter the "order of battle in retreat" is especially instructive.

July.—We probably have not much to learn from the French regarding *the use of the sabre on horseback*, which forms the subject of an article with numerous illustrations in this month's issue. Another paper deals with the *transformation of cavalry*, and one with *Cavalry mitrailleuses*.

The Cossack Chief concludes his personal reminiscences, dealing with the Combat of Reichenbach, the death of Duroc, and various other matters. He describes how he and his cossacks captured two companies of French artillery in the very centre of their army.

The Revue de Cavalerie—Shows what a great number of Military steeplechase take place in France ; these are reported in each issue, and seem to show that the French Cavalry are ahead of us in this useful form of sport.

Revue de Paris.

The July number contains papers entitled *The invisible enemy*, dealing with the campaign in Tonkin ; *The conquest of the Air*, in which Baron de Mauni gives us what he considers the actual condition of the problem, the solving of which will revolutionise warfare, as it will eliminate mountains and other obstacles to the march of armies. In the August number papers on *The Emperor of Corea* and *Military life in Italy* will repay perusal.

Journal of Military Science.

In the June number a paper on *The employment of Reserves on the Field of Battle* may be read. It is entirely historical, dealing with the Napoleonic battles of Marengo, Austerlitz, Jena, and Auerstadt. As the article is to be continued it will doubtless discuss the bearing of modern conditions on the question under review.

In view of our proximity in Africa with the French possessions, and of the question of Morocco, a paper in the number on *The African battalions and their actual organisation* may be found interesting.

Revue du Cercle Militaire.

A short paper in the issue of 6th June on *The grand Japanese Manœuvres of 1902* is of topical interest. An article on *The English nation and army* is also interesting. In the number for June 13th is commenced a paper on *The Canal of the Two Seas*. This relates to the project which contemplates the construction of a canal across France from the Atlantic to the Mediterranean which, if carried into effect, would enable the French to turn Gibraltar. The article, continued in the succeeding issues, is illustrated with plans showing the course of the proposed canal, and with sections showing its depth and breadth. The issue of 11th July contains an article on *the influence of Artillery on the Moral of troops*; in that of the 18th the paper on the projected canal across France is concluded.

The Modern Japanese Soldier—The 25th July number deals with a subject of constant and increasing interest. The author appears to consider that the rapid intellectual development of the Japanese has tended towards their physical degeneration. He points out that the number of conscripts physically fit for service is not more than 20 per cent., in the vicinity of Tokio. Where then, he says, will be found sufficient men able to bear arms?

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Those interested in the subject will find here a table showing the pensions given to all ranks of officers, after thirty and forty years' service, in the above countries and in Austria. Those who complain of the pensions given by our Government may find consolation in the fact that a French Captain receives only £ 103 a year pension after forty years' service.

9. An account of the manœuvres in the various continental countries during 1902 brings the issue under review to a conclusion.

May.—In this issue the following articles may repay perusal:—

1. *Fortresses of St. Petersburg.*—This paper and one which precedes it are of historical interest. The fortresses may be studied as the bars to the "window to the West" referred to in our note on the previous number.

2. *The battle of Inkerman and the defence of Sevastopol.*—This is the concluding article of the series. The following summary of "factors that influenced the result of the battle of Inkerman," as deduced by the author may be instructive:—

- (1) The (Russian) Commander-in-Chief had not a chief of the staff, a genuine assistant, a devoted adviser, ready to fulfil all his undertakings.
- (2) He had no quartermaster-general practised in carrying out plans of campaigns and battles.
- (3) He had neither the maps nor plans necessary for making his dispositions. Reconnaissances could not make up for the absence of maps and plans.

- (4) Owing to unforeseen circumstances he did not place his reliance in General Danenberg, the Corps Commander.
- (5) The troops had not long-ranging and quick-firing arms.
- (6) The troops and their commanders were acting on ground unknown to them.
- (7) The locality presented every advantage for the adversary—it was, as it were, naturally fortified, and on the contrary was entirely unfavourable for us (the Russians).
- (8) The instruction of our (the Russian) troops had not been in accordance with the requirements of the tactics of the time, because it based the entire success of the battle on the bayonet, and did not ascribe sufficient importance to musketry. The author, however, finally comes to a conclusion that the battle of Inkerman was "an actual victory" for the Russians. Through the tortuous intricacies of the reasoning by which he arrives at this astounding result it is impossible to follow him here. I believe there have not been wanting Frenchmen to claim Waterloo as a French victory!
- (9) *Losses and their consequences* is a review of the casualties in various battles, which the statistician may find instructive.
- (10) *Notes on the Austrian Infantry*.—In this number gymnastics and musketry are dealt with, but it does not appear that we have much to learn from the Austrians in either of these subjects.
- (11) *The military training of the Sotnia*.—Further chapters on this subject deal with section leaders, scouts, young Cossacks, and various phases of instruction. The first chapter in this number contains some interesting observations on the Cossack *Lava*, which has frequently been dealt with in the pages of this *Journal*, and which was fully described, from both a historical and tactical point of view, by the present writer in the *United Service Magazine* for September 1896.
- (12) Here we have a very interesting paper on the instruction of the French field artillery, illustrated by diagrams; followed by some observations on field fortification. The author of the latter article dwells on the necessity and importance of intrenchments, holding that it is no less requisite to teach soldiers to use intrenching implements than it is to instruct them in the use of the rifle. He concludes—"Tactics and field fortification must go hand in hand, and in that close mutual connection the troops must find one of the best methods of contending with modern small arm and artillery fire."

R. G. BURTON, *Major*.

Prize Essay Gold Medallists.

- 1872ROBERTS, Lieut.-COL. F. S., V.C., C.B., R.A.
 1873.....COLQUHOUN, Capt. J. A. S., R.A.
 1874.....COLQUHOUN, Capt. J. A. S., R.A.
 1879.....ST. JOHN, Maj. O. B. C., R.E.
 1880.....BARROW, Lieut. E. G., 7th Bengal Infantry.
 1882.....MASON, Lieut. A. H., R.E.
 1883.....COLLEN, Maj. E. H. H., S.C.
 1884.....BARROW, Capt. E. G., 7th Bengal Infantry.
 1887.....YATE, Lieut. A. C., 27th Baluch Infantry.
 1888.....MAUDE, Capt. F. N., R.E.
 YOUNG, Maj. G. F., 24th P. I. (specially awarded a silver medal).
 1889.....DUFF, Capt. B., 9th Bengal Infantry.
 1890.....MAGUIRE, Capt. C. M., 2nd Cav., Hyderabad Contingent.
 1891.....CARDEW, Lieut. F. G., 10th Bengal Lancers.
 1893.....BULLOCK, Maj. G. M., Devonshire Regt.
 1894.....CARTER, Capt. F. C., Northumberland Fusiliers.
 1895.....NEVILLE, Lieut.-Col. J. P. C., 14th Bengal Lancers.
 1896.....BINGLEY, Capt. A. H., 7th Bengal Infantry.
 1897.....NAPIER, Capt. G. S. F., Oxfordshire L. I.
 1898.....MULLALY, Maj. H., R.E.
 CLAY, Capt. C. H., 43rd Gurkha Rifles (specially awarded a silver medal).
 1899.....NEVILLE, Col. J. P. C., S.C.
 1900.....THUILLIER, Capt. H. F., R.E.
 LUBBOCK, Capt. G., R.E. (specially awarded a silver medal).
 1901.....RANKEN, Lieut.-Col. G. P., 46th Punjab Infantry.
 1902.....TURNER, Capt. H. H. F., 2nd Bengal Lancers.
 1903.....HAMILTON, Maj. W. G., D.S.O., Norfolk Regt.
 BOND, Capt. R. F. G., R.E. (specially awarded a silver medal).

MacGregor Memorial Silver Medallists.

- 1889.....BELL, Col. M. S., V C., R.E. (specially awarded a gold medal).
- 1890.....YOUNGHUSBAND, Capt. F. E., K. Dn. Gds.
- 1891.....SAWYER, Maj. H. A., 45th Sikhs.
 RAMZAN KHAN, Havildar, 3rd Sikhs.
- 1892.....VAUGHAN, Capt. H. B., 7th Bengal Infantry.
 JAGAT SINGH, Havildar, 19th P. I.
- 1893.....BOWER, Capt. H., 17th Bengal Cavalry (specially awarded
 a gold medal).
 FAZALDAD KHAN, Dafadar, 17th B. C.
- 1894.....O'SULLIVAN, Maj. G. H. W., R.E.
 MULL SINGH, Sowar, 6th B. C.
- 1895.....DAVIES, Capt. H. R., Oxfordshire L. I.
 GUNGA DYAL SINGH, Havildar, 2nd Rajputs.
- 1896.....COCKERILL, Lieut. G. K., 28th Punjab Infantry.
 GHULAM NABI, Private, Q. O. Corps of Guides.
- 1897.....SWAYNE, Capt. E. J. E., 16th Rajput Infantry.
 SHAHZAD MIR, Dafadar, 11th B. L.
- 1898.....WALKER, Capt. H. B., Duke of Cornwall's L. I.
 ADAM KHAN, Havildar, Guides Infantry.
- 1899.....DOUGLAS, Capt. J. A., 2nd B. L.
 MIHR DIN, Naik, Bengal S. and M.
- 1900.....WINGATE, Capt. A. W. S., 14th B. L.
 GURDIT SINGH, Havildar, 45th Sikhs.
- 1901.....BURTON, Major E. B., 17th B. L.
 SUNDER SINGH, Colr. Havildar, 31st Burma Infantry.
- 1902.....RAY, Capt. M. R. E., 7th Rajput Infantry.
 TILBIR BHANDARI, Havildar, 9th Gurkha Rifles.
- 1903.....MANIFOLD, Lieut.-Col C. C., I.M.S.
 GHULAM HUSSAIN, Dafadar, Guides Cavalry.



